

1998

Promoting Self-Efficacy in Postsecondary At-Risk Readers: A View of the Effects of Using an Instructional Model Based on Cooperative, Active, Critical Thinking Unified Strategies (C\*A\*C\*T\*U\*S).

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PROMOTING SELF-EFFICACY  
IN POSTSECONDARY AT-RISK READERS:  
A VIEW OF THE EFFECTS OF USING AN  
INSTRUCTIONAL MODEL BASED ON  
COOPERATIVE, ACTIVE, CRITICAL  
THINKING UNIFIED STRATEGIES  
(C\*A\*C\*T\*U\*S)

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The School of Vocational Education

by  
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May 1998

**UMI Number: 9836911**

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## ACKNOWLEDGMENTS

There are many persons to whom I am deeply and gratefully indebted for the personal and professional accomplishments that this dissertation represents.

I wish to express my gratitude to my chairperson, Dr. Vincent F. Kuetemeyer, for his never-ending guidance, compassion, and support, but most of all for his belief in me as an educator. I am also grateful to Dr. Michael F. Burnett for his patience with me inside and outside of his classroom, to Dr. Geraldine H. Holmes for her personal anecdotes that continually gave me inner strength through perceptive insights, to Dr. Satish Verma for his meticulous directives toward qualitative research, and to Dr. Earl H. Cheek, Jr. for his encouragement to seek the emerging themes of learning in my developmental reading students and to learn from them.

The persons to whom I am most grateful are my children. I dedicate this dissertation to Jessica, Stephanie, Walter, and Ellen - the four "readers" that I am most proud of as a mother and as a teacher.

And to you, Les Rosso, a very special thank you!

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## ABSTRACT

Nationwide, between one-third and one-half of all students who enter colleges and universities today are identified as needing some remediation. Many developmental freshmen do not have a realistic perception of their learning skills, their ability to activate their prior knowledge, nor a high degree of self-confidence in either their self-image or their inferencing ability to learn in today's college classroom.

The review of the literature served as a basis for designing a cooperative, active, critical thinking unified strategy model (named by acronym C\*A\*C\*T\*U\*S) for educating "at-risk" readers in developmental education. Furthermore, the literature review on self-efficacy and empowerment action-oriented teacher research served as a basis for observing and recording certain emerging themes of learning and/or personal identification concepts of at-risk students during the fourteen-week implementation of the reading model.

A researcher-designed checklist was used to observe ten students during the implementation of twelve selected strategies included in the model which utilized collaborative/cooperative learning throughout the semester. The researcher also utilized an observational checksheet,

student-generated journals and artifacts, and tapes and videos from student-prepared lessons for documentation.

Interviews with the subgroup members involved in the collaborative/cooperative process provided further assessment of students' feelings regarding their reading progress and overall self-image. Posttest Nelson Denny Reading scores at the end of the semester were also compared (123 students instructed via C\*A\*C\*T\*U\*S with 109 students taught via traditional methods).

The data were used to assess the effectiveness of collaborative/cooperative learning reading strategies on the at-risk students' ability to better read/write/think in college content area reading. Daily observations were made to assess any change in attitude toward personal self-efficacy in a classroom setting where such empowerment action-oriented research was used for fourteen consecutive weeks.

Findings indicate that:

1. C\*A\*C\*T\*U\*S, a collaborative/cooperative learning instructional model, proved to be a useful teaching technique in developing the reading performance of underprepared college students.
2. At-risk postsecondary students, when instructed with a model like C\*A\*C\*T\*U\*S, can achieve success, and, ultimately begin feeling more positive about themselves as individuals and lifelong learners.

## CHAPTER I

### INTRODUCTION TO THE PROBLEM

A growing number of entering college students experience difficulty fulfilling the many requirements of the college learning process. For many of these students, developmental classes offer instruction and support in the often difficult task of learning how to learn. Drew (1994) contends that although most developmental students enter the learning situation voluntarily, many do not have a realistic perception of their learning skills, nor do they have a high degree of self-confidence in their ability to learn in the college environment.

While describing the population of developmental students, Mickler and Chapel (1989) portrayed them as "thousands of highly motivated high school graduates, high school dropouts, adults, or recent immigrants, who lack skills for academic success" (p. 2). If this description is accurate, Smith and Price (1996) question why many of these "highly motivated" students fail despite programs carefully designed to improve their academic skills and chances for success. Could it be possible that these students fail because of factors relating to internal motivation, task difficulty, feelings of inferiority,

repetitious failures, or no self-efficacy? Could it be that college developmental freshmen in content area reading classrooms just simply lack either skill (Roueche & Armes, 1980) or work knowledge (Drabin-Parentio & Maloney, 1982)? Is it true that all college level developmental readers who do not have necessary skills to master the difficult content often find their comprehension disrupted and ineffective (Mavrogenes, 1983)? Why is it that so many of these developmental students fail at repeated attempts to comprehend and see word relationships? Why do very few developmental freshmen content area reading students see any positive correlations between the ability to make inferences before, during, and after reading to form a complete understanding? Do large numbers of developmental freshmen have preconceived notions that they will not succeed in college because of their inability to activate prior knowledge and make use of the elements and standards involved in critical thinking?

Rubin (1991) defines developmental education as an organized system for delivering instruction, academic support, and personal development activities to students assessed as having potential for success if appropriate educational opportunities are provided. It should, therefore, be critically important that some strategic



methods of instruction be implemented in today's content area reading classroom that will make these potentially successful students actually discover that success in mastering very difficult college text material.

As classroom activity in higher education has been more closely scrutinized, the traditional/lecture/discussion format has come into question. Benefits of using a variety of teaching approaches, such as collaborative or group learning, are being examined. Wright (1994) suggests helping students take greater responsibility for their own learning by initiating cooperative learning activities. He states that tasks well suited for learning groups have highly important goals; are complex; require problem-solving, creative/diligent, and critical thinking; and anticipate high-quality performance and long-term retention.

Collaborative/cooperative learning activities which will aid these at-risk postsecondary readers are indeed needed for immediate implementation in the college classroom. Myers (1995) contends that the goals of the college developmental education instructor are interconnected with the benefits of cooperative learning; and, these goals involve creating classroom conditions in which students are given the freedom to become active

students, construct meaning, think critically, find relationships, clarify thinking, and respond to challenges. Collaborative/cooperative learning activity approaches to combating low comprehension vocabulary scores and negative concepts about personal self-efficacy are essential in the college classroom today. Reluctant, resistant, at-risk developmental readers need new approaches to internalize reading strategies that can help them alleviate some of their inabilities to activate their prior knowledge, to see relationships between inferencing skills and the elements and standards of critical thinking, to obliterate some of their preconceived negative attitudes toward themselves, and to learn new skills to increase both their vocabulary and their comprehension scores. If these students are taught to realize that these strategies could help them survive in the workplace as well as in the college classroom, there should be added incentive to try and find ownership of very difficult text material. Learning activities that are so designed will help developmental students adapt to new and future demands both as members of the college classroom and the future workforce.

#### Rationale for the Study

The emergence of a "developmental" level population in our American colleges today is a fact that can no longer be

denied. It has been estimated that 30% of all students entering college need some type of remediation. It has also been suggested that between 30% and 40% of first-year college students have deficiencies in both reading and writing skills necessary for college performance. Therefore, it is no surprise that increasingly larger numbers of these types of students are enrolling in developmental courses to gain support in the task of learning to learn. If education is to be effective for these adult developmental at-risk readers, the college instructor/professor must use appropriate strategies to promote motivation, feelings of self-efficacy, and critical thinking/reading skills. These less sophisticated and reluctant readers need additional help and instruction in how to actually activate their prior knowledge to successfully analyze college textbook chapters for study purposes. Perhaps, as many business leaders in today's world have discovered, the real answer for this type of student and this type of potential employee, will only be found through teamwork in the business world and collaborative/cooperative learning in the academic world. Many companies now emphasize the need for employees at all levels who can participate as members of a team, and many leaders in the academic world are agreeing. Faculty in

widely diverse college institutions are discovering that students learn more, perform at higher levels, develop skills for working with others, and have more fun when learning in cooperative learning structures in college classrooms, and, thus, actively involving students with fellow students and faculty in the development of their knowledge is one indication of a broader paradigm shift occurring in higher education.

Additionally, there is a rationale for this type of collaborative/cooperative study to be conducted at the postsecondary level since there seems to be a paucity of such research done at the college level; then too, if such a study utilized teacher-researcher action-oriented empowerment research as the vehicle to both observe and document such instruction at the college level for the at-risk reader, leaders in both the business world and the academic world could benefit from conclusions and recommendations that resulted.

#### Purpose of the Study

The purpose of the study was to determine the effectiveness of an integrated model (C\*A\*C\*T\*U\*S) based on cooperative, active, and critical thinking learning in improving the vocabulary, comprehension, and self-efficacy

of at-risk college level developmental students at a regional university in Louisiana.

#### Research Objectives

a. To design an instructional reading model based on cooperative learning, active learning, and critical thinking unified strategies (named by acronym C\*A\*C\*T\*U\*S) that specifically addresses techniques for improving both vocabulary and comprehension for the at-risk college level developmental reader.

b. To compare an experimental group of at-risk readers instructed via the C\*A\*C\*T\*U\*S model with those students in a control group of at-risk readers instructed via traditional methods on reading ability as measured by the Nelson Denny Reading Test Form H.

c. To determine any changes in the self-efficacy concepts of a group of students of at-risk postsecondary readers following a fourteen-week implementation of C\*A\*C\*T\*U\*S.

d. To identify emerging themes of learning and/or personal identification concepts that are observed in a group of students drawn from an experimental group of at-risk postsecondary readers instructed via the C\*A\*C\*T\*U\*S model for one semester.

## Definition of Terms

### I. Empowerment Action-Oriented Teacher Research

A type of action research that is a process based on continuous interaction between research action, reflection, and evaluation (Hart, 1996). It occurs when teachers themselves advocate for their students' abilities and accomplishments (Wansart, 1995). It clearly involves the collection, interpretation, and sharing of students' stories that challenge the authoritative voice of the academician (Benmayor, 1991). Some of the forms for documentation of this type of research are notetaking, tape recordings, video recordings, interviews, and student-generated artifacts.

### II. Reading Ability

The concept of reading ability, the student's mastery of both vocabulary and comprehension when reading text, will be operationalized in this study as the scores measured by the Nelson Denny Reading Test (Brown, Bennett, & Hanna, 1981). This test is an objective reading assessment and consists of vocabulary and comprehension questions. The current versions for the Nelson Denny consist of Forms G and H (Brown, Vick, Fishco, & Hanna, 1993), and the vocabulary section covers 80 items and is timed at 15 minutes. The comprehension consists of 38

items corresponding to seven reading passages and is timed for 20 minutes. Each item on this section of the test has five answer choices (Shermis, Wolfin, & Lombard, 1996).

### III. Self-Efficacy

Self-efficacy, a belief in one's capability to mobilize his motivation, cognitive resources, and courses of action needed to meet situation demands, will be operationalized in this study as the score obtained on the Generalized Self-Efficacy Scale. This scale is a 10-item psychometric scale designed to assess optimistic self-beliefs to cope with a variety of different demands in life. The scale had been originally developed in German by Matthias Jerusalem and Ralf Schwarzer in the early 1980's and has been used in many studies with thousands of participants. In contrast to other scales that were designed to assess dispositional optimism, this one explicitly refers to personal agency, i.e., the belief that one's actions are responsible for successful outcomes (Jerusalem and Schwarzer, 1986).

### IV. Eight Major Reading Strategies Utilized in C\*A\*C\*T\*U\*S Model

A. Directed Reading Thinking Activity: Moore, Readence, and Rickelman (1983) advocate the directed reading thinking activity for promoting active

comprehension for students. When students read for established purposes, knowing how and why they are doing so, it is easier to revise predictions. This is a strategy that can accommodate students at all reading levels. First, students predict using prior experiences and background knowledge. Next, students read and confirm or reject predictions, then refine the hypothesis as new information is gathered (Stauffer, 1969).

B. Reciprocal Teaching: This strategy has both the instructor and the student take turns as the teacher. Both the teacher and the student read a passage to themselves and the teacher demonstrates the process of formulating a question based on the passage, summarizing the passage, clarifying it, and making predictions based on the information contained in it. Next, the pupil takes a turn as the teacher (Palincsar & Brown, 1984).

C. Active Learning: This strategy forces students to be actively involved with one another as well as with what they are learning and are "teaching" one another (Parker, 1997). They not only seek out and possess information, they do something with it. They apply the concepts, reflect on what they have done, and make judgments as to the worth or value of their conclusions (Cyrus, 1994). Active learning implies that the students are using



combinations of viewing, listening, writing, talking, feeling, touching, and tasting. They are not sitting, listening, viewing, and copying notes as in passive learning.

D. Modeling Cooperative Teaching: With the strategy of cooperative teaching, students learn through observation how two or more people coordinate instructional, behavior management, and student-evaluation activities. This strategy reinforces the trite but true statement--"two heads are better than one"--and is highly transferrable to collaborative learning activities (Villa & Thousand, 1993).

E. Socratic Questioning with Think Alouds: Socratic discussion (based on the skill of questioning) is teaching for thinking (Paul, 1989). These questions give students the opportunity to develop and test their ideas, and these questions can be paired with Think Alouds to help students to separate what is known from what is believed (Hester, 1994). Think Alouds are nothing more than modeling one's thinking about a question aloud--whether the question is text explicit ("in the book") or text implicit ("in the head") and seeing the relationship between that question and answer (Raphael, 1986).

F. Metacognition: This strategy involves thinking about one's own thinking and to purposely make changes in

the way that one thinks about his/her own thinking (Hyde & Bizar, 1989). Overall, metacognitive strategies must include the following to be effective: monitor reader control, access prior knowledge, clarify purpose for reading, focus on major content, look back/reread confusing points, consult dictionary or knowledgeable person, fit new material into personal experience, think aloud to make sure of understanding, create mental images to visualize vague description, take notes, summarize, use mapping and networking.

G. Cooperative Learning Process: This strategy allows the learner to have the right and responsibility to select certain material for his group to process. The learner must also be involved in deciding his group's purpose for reading the material. This strategy requires much group interaction (students often have to list alternatives for outcomes on the board), and they have to verbalize why the lesson is important (Mocker, 1975).

H. Vocabulary Via Analogy: This strategy is a collaborative/cooperative approach that involves a great deal of active learning and critical thinking skills. Students are given instructions on approximately twenty methods to use in looking at word relationships (antonym, part to whole, object to source, etc.), and then they begin

the process of teaching those methods to their group members. This strategy also involves creating a mnemonigraph (word picture) card for each of the vocabulary words taught each semester, and all groups members are encouraged to share their creative ideas for the "pictures" used for each mnemonigraph (Longman, Atkinson, & Breeden, 1997).

#### V. Sixteen Mini Reading Strategies Utilized in C\*A\*C\*T\*U\*S Model

A. Inferencing with Expository Text: Constructing a model using previously learned or schematic knowledge requires the reader to make inferences about the situations in the text. Inferences do one of two things: specify semantic and/or logical relations between propositions or events as well as interject missing information necessary for forming these relations. There are ten major inference types that cover the great bulk of students' reading needs: (a) location; (b) agent; (c) time; (d) action; (e) instrument; (f) cause-effect; (g) object; (h) category; (i) problem-solution; (j) feeling-attitude (Johnson & Johnson, 1986). Using this strategy, the students are shown a passage one sentence at a time on an overhead transparency previously prepared by the instructor. Their task is to make an initial inference and then confirm,

reject, or modify their initial inference as more text is exposed. Again, students identify important words and demonstrate their usefulness in forming the inference.

B. True-False Verifications: This comprehension strategy is either student or teacher generated. Students are grouped by fours and are told they must come up with very difficult statements of 15 words or more from the content area chapter subheading that they are assigned. Their statements are then compiled and one of the group members must be in charge of making an overhead to use in the class the next day. When the group presents, the other students must state whether or not the statement is true or false, give a statement from the text that backs up their group's decision, and relate the page number that they utilized for their decision. If the TFVs are instructor-created, the overheads are prepared after the students work in groups with certain TFVs assigned to them to prove or disprove (Longman, Atkinson, & Breeden, 1997).

C. Reading Difficult Passages: This strategy has students working together cooperatively to form a two-column chart on newsprint for a minimum of six paragraphs in a difficult passage (one column is labeled positive (+) for 3 concepts that the students have some background knowledge about and the other column is labeled negative

(-) for 3 concepts that the students have no background knowledge about). Concepts are listed on these large newsprint charts after having divided the reading assignment into at least five different sections (one section per group). Then the students have a checklist to follow with these five steps: (a) keep the author's purpose always in mind; (b) use clues as to the structure of the passage; (c) leave out parenthetical information, then go back and understand just the parenthetical information; (d) break sentences down and understand the parts before the wholes; and (e) look up any words that keep you from understanding the author's message (Fleshman, 1997).

D. Curveballs: Students in groups of four are assigned a teacher-designed problem that utilizes material from the content area subject matter. The instructor recruits a volunteer who is willing to role-play a specific situation (and the situation is explained in detail to him). The other students generate the questions from the problem that serve as the curveballs. (The instructor specifies some action that can be taken to give the volunteer a difficult time handling the situation.) The instructor must allow the volunteer to cope with the situation. At some grade levels, instead of using volunteers, the instructor must demonstrate and model how

to handle the "curveballs" thrown by the students. Discussions with the class, of course, reinforce the lesson that was to be comprehended with this strategy (Silberman, 1996).

E. WORDO: This is a strategy modeled on BINGO. Students fold a regular sheet of paper into sixteen squares. They select from an instructor-compiled list of forty vocabulary terms per unit and write one word on each square. Before the strategy begins, the students are asked to "chunk" a definition of three words on the back of any five squares that they are very, very sure about. Then WORDO begins. The instructor calls out the definition, and the students place a penny on the correct term. When four in a row are covered, the student declares WORDO aloud. While the instructor is checking the words covered, the student who has declared WORDO must give an example of each term to be declared a true winner. After that the students exchange their folded papers three different times. Each time they must "chunk" a definition on the back of the sheet for any three words that are not defined. When the student gets his original paper back, he has to decide whether all of the definitions are correct. This, of course, assists in later recall.

F. Jigsaw Jargon: Students are asked to do this synthesis activity at the end of any unit. The instructor creates a jigsaw map from at least thirty-five terms covered in the chapter, cuts the pieces apart, and give the pieces of the puzzle to a group composed of four students. The students have to relocate the term in the chapter, place the page number on the puzzle piece, teach one another a quick definition of the concept on the puzzle piece, and then place the piece in the proper position on the puzzle. This strategy is especially helpful for the tactile and kinesthetic learner to assist in synthesis of the information covered.

G. Mind-Maps: This is a computer-generated group project that is assigned a week before it is due. Students are given the pictorial center by the instructor, and it is one of the major concepts in the chapter. As a group the students have to break the whole into smaller components and depict these components around the periphery of the map (using color and graphics) from vocabulary words in the content area chapter. Groups judge and assess the maps on presentation day in class via overhead transparencies. The presentations by the different groups also serve as an excellent form of review. Very professional transparency maps can be generated if the instructor has access to the

software produced by Inspiration (Inspiration Software, Inc., 1997).

H. SQ3R: Students are taught to survey the text, to turn the subheadings into questions as a written outline is formed, read together some passages that require active learning, recite some of the more important concepts to one another, and then to review the chapter or reading together as a whole. After the initial survey of the chapter, it is good to brainstorm ideas or concepts that the students located by placing them on large newsprint. This strategy involves the five basic steps: survey, question, read, recite, review (Robinson, 1941).

I. Prior Knowledge: This strategy shows students that a learner's prior knowledge or background knowledge of a topic facilitates future comprehension (Readence, Bean, & Baldwin, 1985). What one reads gets taken into all levels of the mind and is almost instantly processed according to what the reader believes and knows. The text becomes the reader's, and what one person reads will not have the same meaning for another person. A person responds by hunting through his mind for knowledge and understanding he already has to see how he can make the old meaning connect to the new.



J. One Question Per Unit: Students work together in groups of four. Each group is assigned one specific unit of reading. The groups have to create on newsprint one question that encompasses their entire unit of reading plus a group-generated mnemonigraph or quote that can become an acronym to help facilitate immediate recall. Then each group presents their question, mnemonigraph, and acronym to the entire class to generate group discussions. Many times the disagreements that occur lead to better questions and mnemonigraphs than were originally devised.

K. Brain Dominance Attributes: This strategy usually proves to be very thought-provoking because students find any activity involving individual learning preferences to be fascinating. After the students complete an inventory (Ducharme & Watford, 1991) which indicates their dominant brain hemisphere, they are assigned into groups of students who share either left or right dominance. The students are given a number of assignments throughout the semester that they must complete as a group. The left-brainers quickly learn to begin teaming up with right-brainers when the assignment involves creative writing; the right-brainers quickly learn to begin teaming up with the left-brainers when the assignment involves specific facts or dates in history. Similar assignments are given throughout the

semester. Opposite pairs are formed for a final project in which the left-brainer is given the "focal" point of thinking assignment while the right-brainer is given the "diffused" point of thinking. Very creative projects are usually the result of this endeavor.

#### L. Visual, Auditory, Tactile, Kinesthetic

Attributes: This strategy is usually also very thought-provoking because, once again, individual preferences are very fascinating to students. The students complete an inventory (Barsch, 1996) which indicates their favored learning style, and they must then work on a project that will be presented via their group's preference. For instance, the visual learners will present a lesson that must be accompanied by something that the students can actually see, the auditory learners present a lesson that involves hearing/listening on tape, the tactile learners present a lesson that has a hands-on approach, and the kinesthetic learners actually have the other students physically "move" during their presentation. Study tips are also presented for each of the four styles; for example, it is very important that a tactile learner keep something malleable in one hand while taking a very difficult pen and pencil test. At the end of the semester, all four groups present a short study skills lesson that

demonstrates different tips learned during the semester for their particular learning style.

M. Terms in Triads: Students remember information best when "chunked" in units of three. Chunking involves reducing the size of an array (groups of words) into units that more readily lend themselves to position coding (Bower & Hilgard, 1981). This is a very simple index card strategy. The instructor can select as many as forty terms for the students to work on for a week. Each group is in charge of creating their group's forty notecards. On the left side of the card which is lined down the middle, the students place the term and page number. On the right side of the card is a "chunked" definition of three words. The students take turns teaching one another the definition as well as the location of the term in the chapter. At the end of the unit, the cards are cut down the middle, and all of the groups compete on matching their terms as quickly as possible. It proves to be more difficult if different groups are given cards from other groups at the end of the unit for the speed matching contest.

N. Marginal Note Triangles: This is an excellent vocabulary strategy to use when teaching a content area chapter by mapping instead of outlining. Students are composed of groups of four, and the chapter is divided by

subheading units. Each group is responsible for creating a marginal note triangle to place on the chapter map; their particular triangle needs to include at least four or five distinct vocabulary words appropriate for the unit that was assigned to their group. After each group has created their own marginal note triangle, a large class map is prepared on newsprint. Each group then places their MNT on the large chapter map by the appropriate heading or subheading unit. Overhead transparencies are then constructed for each of the MNTs, and each group is responsible for defining and giving examples for all words in each MNT. If the content area chapter is written with marginal notes already included in the text, the students are encouraged to simply add to the author's vocabulary marginal notes when they construct their group's MNT.

O. Timeline: This is a good strategy to use in any content area reading text where numerous dates must be learned. Students are assigned to work in groups or "families" of six. The instructor selects from the chapter at least twenty specific dates (usually by year alone) and places them on an overhead transparency in jumbled order. The students are given a large sheet of newsprint upon which they must draw the timeline in correct chronological order with the event affixed via large print. The must

then create an acronym to help them memorize at least six specific events and the year that those events occurred. The students must use the first and last dates on the timeline as the first and last letter of the acronym; then they must select any four dates in the middle to complete the nonsense word acronym for memory retention. Each group then presents their timelines and the acronym they created so that all groups can decide on which acronym containing the six dates and events is the easiest to recall for test purposes.

P. Bumper Stickers: This is a good conclusion strategy for any unit. Students are urged to express themselves as concisely as possible. They must brainstorm possibilities before making their selection (this also enables the instructor to know whether or not they truly comprehended difficult terms in the unit). They must consider four general categories before the bumper stickers are actually prepared: (a) one thing learned from the unit bumper sticker; (b) one key thought from the unit to use in future classes bumper sticker; (c) one action step from the unit to use in future classes bumper sticker; and (d) one question that even Arsenio Hall would ponder and go "Hm...." bumper sticker. Creativity, of course, is encouraged (Silberman, 1996).

## CHAPTER II

### REVIEW OF THE LITERATURE

The literature reviewed in this chapter is organized into three major sections beginning with an overview regarding the construct of self-efficacy. The second section includes a discussion concerning cooperative learning, active learning, and critical thinking learning. The third section includes research done on four notable deficiencies/needs of college level at-risk readers as well as a general description of today's developmental postsecondary student.

#### Self-efficacy

The construct of self-efficacy has a relatively brief history that began in 1977 with Albert Bandura's publication of "Self-Efficacy: Toward a Unifying Theory of Behavioral Change." In academic settings, self-efficacy research has investigated the relationships among efficacy beliefs, related psychological constructs, and academic motivation and achievement. Experimental designs have demonstrated that students' self-efficacy perceptions influence their effort and persistence in accomplishing academic tasks. People with low self-efficacy may believe that things are tougher than they really are, a belief that fosters stress, depression, and a narrow vision of how best to solve a problem. High self-efficacy, on the other hand,

helps create feelings of serenity in approaching difficult tasks and activities. As a result of these influences, self-efficacy beliefs are strong determinants and predictors of the level of accomplishment that individuals finally attain (Pajares, 1996).

In recent theory and research, the self-efficacy construct has served as a primary determinant of task-motivated behavior and performance (Lindsley, Brass, & Thomas, 1995; Mitchell, Hooper, Daniels, George-Falvy, & James, 1994; Saks, 1995). Self-efficacy is a major component of Bandura's (1986) social-cognitive theory, which contends that behavior is strongly stimulated by self-influence. Self-efficacy is also related to goal-setting (Locke & Latham, 1990), as well as work in self-regulation (Kanfer & Kanfer, 1991), particularly with respect to leadership (Manz, 1986).

Bandura (1986) defined self-efficacy as "peoples' judgments of their capabilities to organize and execute courses of action required to attain designated types of performances." Wood and Bandura (1989) expanded the definition of self-efficacy by adding that self-efficacy refers to beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet situational demands. Mitchell (1994)

concluded that self-efficacy clearly refers to what a person believes he or she can do on a particular task.

In clarifying the relationship of self-efficacy and performance, perceptions of efficacy serve as behavioral predictor (Bandura, 1986). Whereas individuals avoid tasks perceived as exceeding their capabilities, they undertake and perform successfully tasks they are capable of handling (Bandura, 1978). Wood and Bandura (1989) further concluded that individuals who demonstrate strong self-efficacy are more likely to undertake challenging tasks, persist longer, and perform more successfully than those with lower self-efficacy beliefs. A vast amount of research has attempted to validate the model of self-efficacy proposed by Bandura (Harrison, Rainer, Hochwarter, & Thompson, 1997). Of such research, Bandura (1986) concluded that when precise and detailed measurements of efficacy are made, a high correspondence between efficacy and performance is found. Hence, there is support for the relationship between actual behavior and individual assessments of self-efficacy (Lindsley, 1995; Wood & Bandura, 1989).

Research suggests that repeated successes at a task raise self-efficacy expectations (Gist, Stevens, & Bavetta, 1991), while repeated failures lower them (Hackett, Betz, O'Halloran, & Romac, 1990); this is consistent with



Bandura's theory that inactive attainment is an influential source of self-efficacy (Bandura, 1986; Gist & Mitchell, 1992). By definition, the more complex a task, the lower the probability of an individual succeeding at the task. Therefore, to the extent that complexity affects the probability of inactive attainment, it will have an effect on self-efficacy (Hysong & Quinones, 1997).

There are various ways of obtaining self-efficacy ratings, and the method used may have an impact on the results. According to Bandura (1986, 1995), self-efficacy has three dimensions: magnitude, strength, and generality. Magnitude refers to the degree of task difficulty an individual believes he or she can handle. Strength refers to the confidence of the magnitude judgment (i.e., how much confidence does an individual place in his/her judgment of self-efficacy magnitude?). Generality refers to the variety of situations to which the self-efficacy judgment can apply. Self-efficacy is then measured by obtaining ratings of strength and magnitude, and aggregating them.

Academic self-efficacy might be defined as a person's self-perceived ability to successfully attain competence in a specific area of educational pursuit (Tripp, 1997). Lifelong learners clearly need efficacy beliefs in their abilities to control their level of educational attainment,

to set high yet realistic goals, and to persevere in the face of difficulty. As in other areas, students with higher degrees of efficacy will perform with greater motivation, effort, and persistence on harder tasks. As Bandura puts it, peoples' beliefs in their efficacy play a permanent role in how well they organize, create, and manage the circumstances that affect their life courses (Bandura, 1995). Virtually all experiences of learning, choice making, and conscious motivation are affected by the individuals' perceptions of their own ability to succeed.

#### Cooperative Learning

The best thing colleges could do for the students in coming years would be to train them how to engage in group efforts productively. Few students, if any, have these skills when they arrive at college. Fewer still ever get formal training in them.

(Light, 1991, p. 71)

The complex of methods collectively known as cooperative learning is a highly flexible and variable group of instructional procedures that can involve students actively in learning, provide extensive contact between and among students, specifically teach interpersonal and team skills, help students learn personal responsibility to others, and be used to achieve almost any desired cognitive, affective, or motor learning outcome in any discipline (Bouton & Garth, 1983; Cooper, 1990; Johnson,

Johnson, & Smith, 1991; Kagan, 1989; Michaelson, 1992; Millis, 1991). Cooperative learning could have especially powerful effects in achieving the major paradigm shifts that characterize development of abstract thinking, epistemology, and principled ethical reasoning (Gardiner, 1994).

Anyone in college administration or the professorate who does not see change--or paradigm shifts--on the horizon is living in a bubble. College classrooms of the decade ahead are likely to be quite different from the ones presently inhabited. It is difficult to think of a college classroom where students are thought of as part of a group that cooperates rather than as individuals who compete, and as intrinsically motivated and talented contributors to a process of education instead of passive receivers of already determined "content" (McDaniel, 1994).

Cooperative learning in college classrooms today is often modeled on the pioneering work of W. Edwards Deming (1982) and Joseph M. Juran (1988) who helped Japan revolutionize its industrial management through TQM, Total Quality Management. TQM has now moved to the American campus, Deming and Juran have changed our administrative and pedagogical focus to a concern with systems, processes, teamwork worker empowerment, "just in time" training,

continuous improvement, and long-term goals. In management theory the philosophy behind TQM is sometimes referred to as "Theory Z" (McDaniel, 1983), an approach to manager-worker relationships that expresses confidence in the ability of the worker, rather than the supervisor, to make the best decisions about quality. Under TQM and Theory Z concepts, quality and productivity increase as workers are controlled less and given more freedom and responsibility--with high expectations for results. For faculty members at colleges, these concepts should encourage more freedom for, and shared decision making with, their students. One of Deming's fourteen points is that organizations working toward quality must "drive out fear." Toward this end, he agrees that workers should not be graded, rated, and ranked because inspecting, judging, and testing create barriers between managers (professors) and workers (students) and contribute to a relationship built on fear (McDaniel, 1994).

In this new paradigm of thinking under TQM and Theory Z, it is not unreasonable to bring cooperative learning into the college classroom with some, if not all, of the following goals:

1. correlate curricular aims to fit into the students' needs for collaborative activities

2. coach and counsel students more than teach or lecture to students
3. create comfort and trust in the classroom
4. eliminate barriers and obstacles that interfere with the joy of learning
5. monitor for continuous improvement but reduce or eliminate formal testing
6. use strategies that promote cooperation, teamwork, and success
7. think in terms of "talent development" rather than "deficit reduction"
8. arrange instruction so it allows students to learn "just in time"--when it meets an actual "need to know"
9. provide increasing opportunities for student choice, individually or in groups.

TQM and Theory Z are leading to a redefinition of the college professor's work. This new role is unfolding especially on campuses where students are valued as customers and are considered competent participants in their own educational development (McDaniel, 1994) as well as on campuses where cooperative learning is the rule and not the exception.

Many students do not value schoolwork, do not aspire to do well in college, do not plan to take difficult courses, and plan to just get by. Cooperative learning groups could possibly promote a paradigm shift about learning at the postsecondary level. Research has

supported the following principles to guide postsecondary instructors in changing such attributes via cooperative learning:

1. Attitudes are changed in groups, not individually. Focus efforts on having students in small groups persuade each other to value education.
2. Attitudes are changes as a result of small group discussions that lead to public commitment to work harder in school and take education more seriously.
3. Messages from individuals who care about, and are committed to, the students are taken more seriously than messages from indifferent others. Committed and caring relationships should be built between academically oriented and nonacademically oriented students.
4. Appeals to value education should be personally tailored to the individual student. General messages are not nearly as effective as personal messages.
5. Conversions are long term, not sudden. Internalizing academic values will take years of persuasion by caring and committed peers.
6. Support from caring and committed peers is essential to modifying attitudes and behaviors and maintaining the new ones. Students cannot do it alone; they need help from their friends (Johnson & Johnson, 1991).

### Active Learning

Active learning means that students are involved in what they are learning. They not only seek out and possess information, they do something with it. They apply the concepts, reflect on what they have done, and make

judgments as to the worth or value of their conclusions (Cyrs, 1994). The research literature on active learning conducted by Chickering and Gamson (1987) suggests that students must do more than listen during lecture. They must be moved beyond passive listening. Active learning implies that the students are using combinations of viewing, listening, writing, talking, feeling, touching, and tasting. They are not sitting, listening, viewing, and copying notes as in passive learning. As the students receive the information, they act upon it and do something with it (Baldwin & Williams, 1988).

Bonwell and Eison (1991) list some general descriptions commonly associated with use of instructional strategies that promote active learning in the college classroom.

1. Students are involved in more than listening.
2. Less emphasis is placed on information transmission skills. It is placed on the development of applied skills.
3. Students are involved in the skills of analysis, synthesis, and evaluation.
4. Students are engaged in activities which use reading, discussing/writing, and speaking.
5. Students are involved in the exploration of their own attitudes and values.

Active learning is called interactive learning by Jones (1988), and he notes that "an event is what actually

happens, not what is supposed to happen. An event is whatever the participants think, feel, and do" (p. 287).

Simpson and Galbo (1986) propose that interaction in a classroom is central to the learning process, and they define interaction as all manner of behavior in which individuals and groups act upon each other.

Active learning does indeed move the college students of today from passivity to activity. It is described by Baldwin and Williams (1985) as follows:

The active learning process assumes that everyone in the learning group has a positive contribution to make, based on their experience, knowledge and talents; assumes that the trainer has as much to learn from the learners as they have to learn from the trainer and from each other; ... Perceives self-evaluation as a primary learning tool, and recognizes that the most useful assessment for a learner is self-assessment; perceives any necessary external assessment as the product of negotiation between the trainer and the learner... In active learning, the learner moves to center stage, no longer as a recipient of, but a participant in, the learning process (pp. 4-5).

Those familiar with the literature would agree that the entire field of research on college teaching is underdeveloped (Green & Stark, 1986). Certainly this generalization holds true for research on active learning, and what has been done has serious limitations. To cite but one example, most published articles on active learning



in professional journals of higher education lack either a theoretical framework or a scientific foundation, and it is the scientific method, more than any other procedure known to man that provides the basis for intelligent change: change based on systematic knowledge rather than on improvisation, hunch, or dogma (Sanford, 1965). It is, therefore, very evident that more studies need to be conducted on alternatives to lectures involving active learning since today's undergraduate postsecondary students are still being instructed by instructors who refuse to depart from the old lecture method. It is, of course, very apparent that the anciently revered method of lecture is not working today. As countless national reports have stated, the entry skills of today's freshmen have been steadily declining: 30 to 40 percent lack basic competency in computation, reading, and writing. Many instructors have repeatedly written journal articles and conducted workshops that have the same underlying theme for instruction today in the postsecondary classroom: debunk the lecture. More rigorous studies must be undertaken in such areas as discussion, questioning, writing in class, guided design, case studies, drama, debate, role plays, and games and simulations--active learning at its best (Bonwell & Eison, 1991).

Strategies involving active learning can be used to modify the traditional lecture in a classroom of any size. Although the results are sometimes not as erudite as might be desired, with practice and feedback some of the following active learning alternative strategies can energize even a large classroom:

1. An interactive lecture can begin with students brainstorming what they think they know about a concept while a fellow student writes all contributions on the board. The instructor then uses these contributions from students to build a conceptual framework for the topic under discussion and to correct any apparent misconceptions.
2. Questioning can take many forms, ranging from standard open-ended questions to having groups of two or three students work together first to contemplate a judgment question and then to build a response from the group based on specific information or evidence presented in the course.
3. Small groups can provide energy and interaction, but the size of the group is best determined by the size of the class, its physical arrangement, and the task. Three points help to improve the quality of small-group work: the instructions given to students must be explicit; an appropriate time frame must be chosen and communicated; and a group recorder should be assigned the responsibility for providing feedback during debriefing.
4. A large class also offers a good opportunity to practice an old-fashioned but woefully ignored technique: *explication de texte*. By reading and analyzing passages from the text out loud, students can learn higher order thinking skills, that criticism is a legitimate intellectual exercise without the excessive emotionalism commonly associated with the term. This technique also is applicable to alternative

sources of information, such as analytical curves or works of art.

5. It is even possible to use large lecture settings for debate among students based on simulations and role playing. After providing a minilecture to establish a proper setting, the instructor divides the class into two or more large groups, each with a well-defined role to play in the problem. The groups are then given a concrete task and asked to develop a position or to describe a course of action. If the problem is developed correctly, the groups' positions should provide alternative or opposing viewpoints that lend themselves to debate. People representing a group's position are then asked to participate in whatever format the instructor deems most appropriate: role playing, panel discussion, formal debate, and so on (Frederick, 1987).

### Critical Thinking Learning

In September of 1986, Paulo Freire wrote a "letter" addressed to North American teachers (Shor, 1987). The Brazilian educator and philosopher had this to say:

To teach content in a way that will make subject matter appropriated by students implies the creation and exercise of serious intellectual discipline. Such discipline began forming long before schooling began. To believe that placing students in a learning milieu automatically creates a situation for critical knowing without this kind of discipline is a vain hope. Just as it is impossible to teach someone how to learn without teaching some content, it is also impossible to teach intellectual discipline except through a practice of knowing that enables learners to become active and critical subjects, constantly increasing their critical abilities (p. 213).

Freirean methods for empowering education are methods that literally exude critical thinking strategies filled with student-generated answers to facilitator-trainer generated questions. Paul (1989) develops the idea that questioning is basically "wondering aloud about meaning and truth." He reminds today's liberatory postsecondary teachers that Socratic discussions (based on the skill of questioning) have the function of eliciting and probing student thought; they allow students to develop and evaluate their own thinking; they function to encourage students to slow down their thinking and elaborate on it; and they give students the opportunity to develop and test their own ideas.

Socratic questioning is especially effective in the nontraditional student setting since it requires active learning--so much a part of the critical paradigm in facilitating adult learning. The critical paradigm of facilitation, drawn from the work of Freire and interpreted in North American adult education by writers such as Heaney (1981), Mezirow (1981), Noble (1983), and Shor (1987) focuses on facilitators encouraging learners to scrutinize critically the values, beliefs, and assumptions they have uncritically assimilated from the dominant culture. This paradigm forces today's postsecondary student to begin

thinking critically, and if the teacher/facilitator implements any Freirean methods for empowerment, the critical thinking strategies become lifelong learning tools.

Kurfiss (1988) identified five broad implications for instructors who would like to do more liberatory critical thinking with their students:

1. Use problems as organizing principles for instruction. Link new data to the experiential backgrounds of the students.
2. Use modeling, coaching, practice, review, and feedback. Teach students when and how to use what they are learning.
3. Create situations in which students can discuss their beliefs and values about what they are learning and create learning experiences in which students can examine and modify their beliefs.
4. Explain a variety of metacognitive processes and demonstrate them frequently in class.
5. Motivate students by using social and cognitive instructional strategies.

Numerous college texts are now being written that do indeed employ many of the attributes and qualities listed in the aforementioned description of critical thinking that is liberatory. Different teaching strategies can result in very positive outcomes, too. Longman, Atkinson, and Breeden (1997) devote one entire chapter of their text to such strategies. The chapter is entitled "New Directions; MIND in the Twenty-First Century", and the acronym stands

for material, inquiry, introspection, and decision. All four major components of the critical thinking process are used in student activities centered around the following nine terms: paradigm paralysis, total quality management, retraining, lifelong learner, downsize, trend, goods, change navigator, and status quo. This chapter deals with the world of work, and it can promote and reinforce all twelve of the aspects of critical thinking previously mentioned. The activities involved with the critical thinking aspects are totally meshed with cooperative and active learning, too.

Then, too, writing assignments that are artistically designed can provide students with opportunities to apply both the skills and the creativity of critical thinking. One critical thinking professor working in conjunction with a member of a developmental English faculty, pioneered the use of photography in learning to think critically. The students photographed images that they thought accurately represented an assigned concept; then in an essay, the students supported the relevance of the image to the concept, while also exploring the critical thinking elements of point of view, assumptions, and interpretations. Differences in perception were made possible by utilization of the camera as the initiating

instrument in the assignment (Miholic & Eleser, 1996). Another critical thinking professor at the developmental level challenged students who are described as being at-risk with a research paper assignment based on the dissertation model; effectively, these students were utilizing skills and creativity that are usually demanded at the graduate school level as they had to propose, gather and analyze data, and arrive at conclusions (Harris, 1997). Another critical thinking instructor intricately utilized available university computer equipment to teach students how to perform research via critical thinking using the Internet. Students used the Internet to discover certain events that applied to previously discussed concepts and applied critical thinking to determine the "best fit" of concepts to events and writing about their findings (Steib, 1996).

Teachers need to know explicitly what they mean by critical thinking within the context of their discipline and then provide opportunities for their students to practice critical thinking skills and values and attitudes. Lockhart (1963) says that if critical thinking is to be contagious, the student must be surrounded by it ...the student yearns to be shown by example. Any teacher/facilitator that believes her classroom is liberatory

should clearly believe in making the critical thinking process a contagious and not dormant daily experience.

Students cannot learn critical thinking skills from or during a lecture. At best, they can observe a talented instructor working through a problem in a quantitative or qualitative context as they apply different solution techniques and reflect out loud as they go through the steps. In the final analysis students must participate in the solution process, and not solely as an observer. They must be given time to work with other students and practice the skill of critical thinking with guidance and feedback from the instructor (Cyrs, 1994).

Ennis (1962) defined critical thinking "to be the correct assessing of statements" (p. 85) and defined twelve aspects of critical thinking in his research in which the student:

1. grasps the meaning of a statement,
2. judges the ambiguity of a line of reasoning,
3. judges the contradictions among statements,
4. judges that a conclusion follows necessary from the data provided,
5. judges the specificity of a statement,
6. judges that a statement is actually the application of a certain principle,
7. judges the reliability of an observation,
8. judges if an inductive conclusion is warranted,
9. judges if a problem has been identified,
10. judges if something is an assumption,
11. judges the accuracy of a definition,
12. judges whether an authoritative statement is acceptable as presented.



Competence in critical thinking is not an incidental outcome of instruction. Instructors must employ direct, systematic instructions to develop the metacognitive skills necessary to foster critical thinking across academic disciplines (Cyrs, 1994). Meyers (1986) observes that "critical thinking abilities do not develop unaided during a course of study, nor will they arise solely from students listening to lectures, reading texts, and taking exams" (p. 133).

#### Notable Deficiencies/Needs of College Level At-Risk Readers

The integration view of reading involves relating newly encountered information encountered earlier in the text or retrieved from long-term memory. In contrast, Daneman (1991) states that the knowledge view of reading focuses on retrieving information stored in long-term memory, and proposes that skill at integration depends on having the knowledge and using it to make inferences about the relationships between successive ideas in a text. This process of integrating information is indeed a difficult task for the at-risk developmental college reader. The at-risk reader is not only impaired by possessing minute knowledge of study strategies, the at-risk developmental reader is also at a great disadvantage because of this insufficient inferencing processing technique and is also

oftentimes the owner of an underdeveloped schema. Anderson and Pearson (1984) indicate that the ability to actually make inferences, mental connections between the reader's schema and the text, is a crucial component in a schema-theoretic approach to reading comprehension. Many times the at-risk college developmental freshman reader experiences frustrating attempts to make inferences because he not only is unable to quickly activate his prior knowledge when processing information, he also has preconceived notions that he will never succeed with any type of reading integration process.

One of the most universal findings to emerge from recent research is the marked degree in which a learner's prior knowledge of a topic facilitates future comprehension. This prior knowledge or pathway to understanding new ideas, when related to content area assignments, is crucial (Readence, Bean, & Baldwin, 1985). Many developmental college students enter the developmental content area reading classroom with no knowledge about activating their prior knowledge and little, if any, knowledge about inferencing skills. Instructional activities that focus on correcting these deficiencies are vitally needed; and, research has consistently shown that cooperative learning situations result in more higher level

reasoning, more frequent generation of new ideas and solutions, and greater transfer of what is learned within one situation to another than does competitive, behavioristic, individualistic, traditional approaches to learning.

If students in a developmental studies program are not enrolled concurrently in a credit-bearing content area course, reading instructors should teach strategies through a simulation model that will correct the above-mentioned deficiencies. The goal of such a model is to replicate the tasks and texts of a typical lower division course that most students are required to take after the completion of the developmental education requirement. When the students exit the "simulation" course, they take with them a physical product (marked text and appropriate strategies), a cognitive product (greater prior knowledge and experience), and several domain-specific and general study strategies (Stahl, Simpson, & Hayes, 1991).

This final part of this chapter presents evidence to support such a conclusion by summarizing research in the following areas: (a) inferencing with expository text; (b) activation of background or prior knowledge and use of schema; (c) collaborative/cooperative learning; (d)

metacomprehension; and (e) college developmental content area reading students.

### Inferencing with Expository Text

In one sense, research about expository text structure instruction is as old as research about study skills because of all of the work on the effects of underlining, outlining, notetaking, or summary instruction is an attempt to sensitize students to the usefulness of focusing on, representing, or rerepresenting the author's arguments as an aid to comprehending, learning, and remembering information (Anderson & Armbruster, 1984). In another sense, the research is very young, covering just over a decade and following close on the heels of the extensive work on the recent cognitive and linguistic schemes for analyzing text structure (Meyer & Rice, 1984). Baumann (1984) compared sixth-grade students who were directly taught a strategy for how to find and/or create main ideas with a basal control group, which focused upon practicing main-idea worksheets, and a placebo control, which completed vocabulary activities. While there were no group differences on transfer measures of free recall, there were significant differences favoring the strategy group over the other groups, on both near-transfer (finding-the-main-idea) tasks and far-transfer (outlining) tasks. Schunk and

Rice (1987) added an interesting twist to their main-idea strategy instruction, embedding it within a systematic examination of the importance of teachers' social metacognitive interactions with students. They wanted to know whether remedial readers' strategy acquisition and application would be influenced by teachers' comments about the usefulness of the specific strategy being learned (specific value), the usefulness of strategies like this one (general value), or feedback about the general effectiveness of the strategy. What they found was that the more information and the more specific the information students received about the value of the strategy, the better they were able to perform on posttests measuring strategy application (Pearson & Fielding, 1991).

Constructing a mental model using previously learned or schematic knowledge requires the reader to make inferences about the situations in the text. Developmental students need to be taught how to make inferences from the expository text college chapters that they have to dissect in the content area reading classroom. They need to realize the inferences are everywhere and that during the reading process an inference can be (and often must be) modified. Johnson and Johnson (1986) list ten major inference types that cover the great bulk of students'

reading needs: (a) location; (b) agent; (c) time; (d) action; (e) instrument; (f) cause-effect; (g) object; (h) category; (i) problem-solution; and (j) feeling-attitude. According to Anderson and Pearson (1984), readers make at least four types of inferences; however, it is the default inference that is the inference that occurs most often. Since writers assume they and their readers share much background knowledge, they often omit information. It is when the reader fills in this gap or makes a bridge that they are assigning a default value--a feat that is very frustrating and difficult to accomplish for the at-risk reader.

The at-risk reader must be shown that recall and analysis from expository text can be inferred via recognition of propositions or idea units. Readers process more deeply when reading narratives by relating specific events and details to the general structure. Similarly, when reading expository selections, the at-risk reader achieves deeper processing when he finds the connections among supporting details, examples, main ideas, and high-level abstractions (McNeil, 1984).

Kintsch (1974) contends that inferencing involves propositions representing the meaning of a text that are linked together, usually by argument overlap, to form a

hierarchical textbase. Important information tends to be at the top of this hierarchy, while detailed information is at the lower levels. Only explicitly mentioned propositions are represented in this hierarchy, as well as inferences needed to maintain coherence (bridging inferences). Available evidence tends to support this practice; bridging inferences are made at the time of encoding (reading) since they are necessary to maintain coherence, but elaborative inferences are typically made during the recall phase.

Meyer's system (1975) differs from the Kintsch system in a number of key respects. First, the unit of analysis in the expository text is no longer the proposition but the idea unit. These idea units capture not only the expressed, explicit content of the passage (such as is contained in Kintsch's proposition), but also the inferred relationships implied by the text.

Of the two major systems (Kintsch and Meyer), research has shown that the Meyer system may be somewhat more sensitive to developmental differences (Bieger & Dunn, 1980), and also that the hierarchy produced from using the Meyer system was the best predictor of recall (Meyer, 1985).

The at-risk reader must not only be shown how to recognize propositions or idea units in the expository text, he must also realize that inferences usually do one of two things. Trabasso (1981) stated that inferences either (a) specify semantic and/or logical relations between propositions or events or (b) interject missing information necessary for forming these relations. Trabasso (1981) also identified four functions of inferences in reading comprehension: (a) resolution of semantic ambiguity, (b) resolution of nominal references, (c) establishment of context, and (d) establishment of a larger, interpretive framework.

Construction and modification of inferences are essential to reading comprehension. Students need to be taught how to make inferences, and they need to realize that during the reading process, an inference can be modified (Johnson & Johnson, 1986). Clark and Haviland (1977) discuss the "given-new contact" and describe a set of authorized inferences (implicatures) that enable communication to occur. Warren, Nicholas, and Trabasso (1979) describe and exemplify two broad categories of inferences--those that are "text connecting" and those that are "slot filling." Frederickson (1979) identifies twenty-six inference types from "algebraic" to "theme".



Analyzing a passage to determine important words and describing the contribution of each word to forming an inference are essential. Such scrutiny and contemplations need to become habitual. Likewise, the integration of textual information with the reader's prior knowledge is essential to inferential comprehension (Johnson & Johnson, 1986).

### Summary

Pearson & Fielding (1991) state that students of a wide variety of ages and abilities benefit when teachers take the time to help them either recall or build knowledge of expository text structure by paying systematic attention to it; that students' comprehension is enhanced when teachers help them pay attention to the structural relationships among the important or central ideas in the text. Bridging inferences--the reader's ability to make mental connections with what is in the text with what is in his head--is absolutely necessary for the at-risk reader to maintain coherence and to increase comprehension. The at-risk reader must be shown that inferences from expository text (no matter which kind of inference) will ultimately aid in resolutions of ambiguity and the establishment of a framework and context.

### Activation of Background or Prior Knowledge and Use of Schema

Vygotsky (1962) recognized that learning is response-- that when a person hears or reads something he has never heard before, it does not imprint upon his brain the way print remains on paper; people are not blank, absorbent tablets. Instead, a person responds by hunting through his mind for knowledge and understanding he already has to see how he can make the old meaning connect to the new. The work of Voss and colleagues provides a direct demonstration that background knowledge about a topic can affect the level of comprehension attained (Chiesi, Spilich, & Voss, 1979; Spilich, Vesonder, Chiesi, & Voss, 1979; Voss, Fincher-Kiefer, Greene, & Post, 1985). Research such as this suggests that comprehension depends on knowledge; that schemata help readers organize information, interrelate it, draw the appropriate inferences, and develop a retrieval structure to aid later recall (Daneman, 1991).

The schemata provided by prior knowledge apparently guide readers to make inferences and elaborations while reading. The schema theory is not a totally new idea nor is it a new name for an old idea; it is an old idea which has been expanded (Cheek & Cheek, 1984). Activating prior knowledge can be stimulated by many instructional

procedures, such as group discussion of the key concepts in text (Langer, 1981).

Wong (1985) found that without appropriate background knowledge, secondary level students typically experienced difficulty in generating questions on their own. Winograd's (1984) work on secondary students and summarizing also pointed out the difficulties students may encounter when they lack sufficient background knowledge to identify what is important in texts.

Perhaps of even greater concern than passage unfamiliarity is the length of text being studied by the secondary school student. Normally the text that the at-risk developmental college student will face will be very difficult and lengthy. It cannot be assumed that strategies capable of facilitating students' learning from brief experimental passages will be equally effective with longer texts (Alvermann & Moore, 1991) even if some background knowledge about the subject area is indeed a reality; therefore, activating what prior knowledge there is about the subject is a strategy of necessity.

Students' comprehension is improved when relationships are drawn between students' background knowledge and experiences and the content included in the reading selection. This may involve invoking appropriate knowledge

structures before reading, making and verifying predictions before and during reading, or answering inferential questions during and after reading. Further, there is evidence that when students develop an expectation that they should try to understand what is new in terms of what they already know, their comprehension of new and unguided selections is improved (Pearson & Fielding, 1991).

### Summary

Perhaps no other phenomenon has influenced instructional research in the last decade as pervasively as the powerful role of background knowledge in reading comprehension. Background of experience, sometime referred to as prior knowledge, is a major factor in the reader's ability to understand what has been read (Reynolds, Taylor, Steffensen, Shirley, & Anderson, 1982). Background experience refers to the accumulated knowledge that a person has at any point in time. Obviously, background knowledge continues to change and grow as people gain experience. The reading instructor has the responsibility of being familiar with the strengths and inadequacies of the students' background of experiences and must make provisions to extend those experiences to include the idea and concepts present in the material they are expected to read (Cooper, Warncke, & Shipman, 1988).

A grave mistake that many college students make is to treat each topic in each class as a bit of isolated information; sociology has nothing to do with psychology, say, or psychology is unrelated to literature. College students must be reminded to build on what they already remember (Nist & Diehl, 1994).

Content teachers must take steps to determine students' prior knowledge and background experiences of a topic before deciding whether the students can cope with a specific unit of study (Readence, Bean, & Baldwin, 1985). They must make use of any available strategy that will facilitate activation of prior knowledge for the at-risk reader's assignments and/or recreational reading.

#### Collaborative/Cooperative Learning

Group work can increase students' achievement and encourage positive feelings about learning and success. It improves student motivation, participation/ involvement, and critical thinking skills (Alvermann, Moore, & Conley, 1987). Cooperative learning groups mix students in groups of 4 or 5 to work on a common task. Through positive social interaction, shared responsibility for each other's learning, peer tutoring and coaching, students become active learners (Johnson, Johnson, Holubec, & Roy, 1984).

Theoretically, structuring situations cooperatively results in promotive interactions in contrast to competitive structures that result in oppositional interactions or individualistic structures that result in no interactions. It is the type of interaction pattern that affects such variables as achievement, quality of relationships among students, and students' social competence and psychological adjustment (Johnson & Johnson, 1989).

More than 575 experimental and 100 correlational studies have been conducted by researchers in different environments, subject areas, countries, and age groups. The research evidence is clear that cooperative learning promotes higher achievement, higher self-esteem, increased higher-level reasoning, more frequent generation of new ideas and solutions (process gain), and greater transfer or generalization from one situation to another. Other beneficial outcomes include more positive heterogeneous relationships, better attitudes toward subject matter and teachers, greater collaborative skills, and more positive psychological health and social support (Johnson, Johnson, Ortiz, & Stanne, 1991).

Support for cooperative learning in college classrooms is coming from a variety of perspectives (Thousand, Villa,

& Nevin, 1994). Astin (1993) recently completed a study of students at 159 baccalaureate granting institutions. This work represents the first attempt to examine the impact of different general education approaches on student development using a large national sample of undergraduate institutions and a range of student outcomes. Eighty-eight environmental factors were investigated to determine which factors influenced students' academic achievement, personal development, and satisfaction with college. The findings strongly support a growing body of research suggesting that one of the crucial factors in the educational development of an undergraduate is the degree to which the student is actively engaged or involved in the undergraduate experience.

Light (1992) supported Astin's conclusions in his preface to the Harvard Assessment Seminars: Second Report. He wrote:

The biggest challenge for me is to ask what the details all add up to. Do the many suggestions that interviewers get from their long conversations with undergraduates drive toward any broad, overarching principle? Is there any common theme that faculty members can use to help themselves? The answer is a strong yes. All the specific findings point to, and illustrate, one main idea. It is that students who get the most out of college, who grow the most academically, and who are the happiest, organize their time to include interpersonal activities with faculty members, or with fellow students,

built around substantive, academic work.  
(p. 6)

Within the last decade the simple act of communication within small groups has been structuralized by "how-to" handbooks. For example, specific, organized, and exact planning activities are reflected in Spencer Kagan's (1992) six key concepts: teams; will to cooperate; management; skill to cooperate; basic principles of simultaneous interaction; and structure. Filled with numerous activities, the book precisely outlines teaching methods designed to establish cooperative activities within the classroom. Groups are not designed as formal cooperative, informal cooperative, and cooperative base groups, but participants are also assigned the specific tasks of reader, recorder, calculator, checker, reporter, materials handler, encourager of participation, praiser, and checker for understanding (Myers, 1995).

Cooperative learning means noncompetitive learning, in which the reward structure encourages students to work together to accomplish a common end. Collaborative learning is always cooperative, but it takes students one step further: to a point where they must confront the issue of power and authority implicit in any form of learning but usually ignored. Either mode may employ group work; neither depends entirely on this technique.



Collaborative learning always takes both the student and the professor "into enemy territory"; cooperative learning generally maintains traditional authority structures (Gamson, 1994).

Collaborative learning has to begin in most cases with an attempt to reacculturate at-risk readers. Given most students' almost exclusively traditional experience of classroom authority, they have to learn, sometimes against considerable resistance, to grant authority to a peer ("What right has he got to...?"), instead of a teacher. And students have to learn to take on the authority granted by a peer ("What right have I got to...?"), and to exercise that authority responsibly and helpfully in the interest of a peer (Bok, 1986).

College teachers who practice cooperative learning often find themselves collecting rich data sources: student anecdotes, increased class averages, and changes in the quality as well as quantity of student products. Changing college teaching to more active, cooperative learning is not easy. Recognizing and promoting three essential aspects of change--an attitude of experimentation, a common goal (positive interdependence), and personal support--is central to making the transition (Smith, Johnson, & Johnson, 1992).

### Summary

Research findings indicate positive outcomes associated with collaborative/cooperative learning; although past history emphasized individualism, the future will be marked by more cooperative efforts. The goals of the college developmental education instructor are interconnected with the benefits of cooperative learning: creating classroom conditions in which students are given the freedom to become active students, construct meaning, think critically, find relationships, clarify thinking, and respond to challenges. Cooperative learning, by its very nature, invites students to become active learners. New perspectives are shared within groups as a result of the existing variety of background knowledge. Listening skills are honed as students read, report, and communicate ideas to each other and engage in problem solving as a group. Generalizations are supported by facts that students obtain by returning to the text for verification, thus clarifying ideas. Students not only learn by teaching, analyzing, and synthesizing information, but also develop social skills in a less threatening atmosphere. Small groups demand a degree of metacognitive awareness by which students constantly monitor their statements and progress toward a goal. Collaboration between the teacher and students also

develops an atmosphere that builds a community of learners (Myers, 1995).

After nearly two decades of research and numerous replications of studies, there is a major consensus that cooperative learning methods can have a positive effect on student achievement, group goals, individual accountability, intergroup relations, and social acceptance (Pavese, 1993). Indeed, strengths of collective/collaborative approaches are very evident in the literature; however, a review of the prevalent literature would be incomplete without some focus on the areas of controversy. The issue of effectiveness at all grade levels is still a matter of contention between some cooperative learning gurus. At the college level, the essential components of group goals and individual accountability have been questioned (Johnson, 1981), and there is also heated debate regarding specific conditions under which positive effects of cooperative learning are actually found (Kagan, 1989). Furthermore, Davis (1993) warns of the following weaknesses in the group/team strategy approach to learning in Better Teaching, More Learning: Strategies for Success in Postsecondary Settings. He wrote:

Weaknesses: Can result in social loafing by some members, avoidance of individual

responsibility, conflict, apathy, or "group think." Can be slow, inefficient, and subject to breakdown at the process level. Presupposes willingness for self-disclosure and a minimal level of listening skills. (p. 353)

There is no magic panacea for at-risk readers, and there are obviously negative aspects of using a collaborative/cooperative learning model in the developmental classroom; however, the positive attributes of such a model far outweigh any deficits involved in such a process. The college developmental teacher could only be encouraged and see success in students who discover the strengths of such a learning model that would include, but not be limited to, the following: the collective contributions of total membership, the involvement of participants at the emotional level, active and not passive learning, providing for social needs of interaction, and flexibility and ownership in the learning process (Davis, 1993).

### Metacomprehension

Metacomprehension instruction stems from the Ann Brown (1982) descriptors of metacognition--(a) awareness of one's own activities while reading, solving problems, and studying, and (b) use of self-regulatory mechanisms by active learners. Metacomprehension is in place when

students understand or do not understand what they are reading and know what to do about it (self-monitoring). When students become conscious of their thinking and comprehension they can deliberately try different "fix up" strategies when comprehension breaks down and are more likely to become independent learners.

The construct of metacomprehension/metacognition is still quite fluid; however, metacognition is used to refer to the ability to reflect on one's thinking (awareness). It also typically includes some references to the ability to manage one's learning actions (executive feature). Thus, metacognition involves both knowledge structure and control mechanisms. Skilled reading is viewed as the result of effective selection, application, and monitoring of strategies (Brown, 1975; Paris, Lipson, & Wixson, 1983). Therefore, a metacognitive account of reading disability hypothesizes a deficit in either knowledge and skill or in control mechanisms used to coordinate knowledge and skill (Wixson & Lipson, 1991).

Metacomprehension, or the cognitive self-appraisal of what is understood when reading, has increasingly been shown to be a critical part of effective reading. Good readers constantly monitor and check what they are understanding as they read a passage (Robinson & Hulett,

1991). At-risk developmental readers have to be shown how to constantly monitor and check their reading as they attempt to comprehend difficult college chapters in the content area reading classroom, and metacomprehension quickly becomes one of their favorite implementation strategies.

Metacognitive research on ability-disability shares many of the features of cognitive research. In general, the results of this line of research suggest a positive relationship between levels of metacognitive awareness and reading comprehension. In addition, such studies have demonstrated that active engagement during reading is associated with better comprehension. For example, Beebe (1980) examined reader miscues and correction rates to demonstrate the relationship between monitoring errors and use of corrective strategies. There were significant positive correlations between spontaneous reader corrections and comprehension of text. Thus, researchers established the dual aspects of metacognition--awareness and control--as related to reading performance.

Wong and Jones (1982) used a training study to investigate whether or not insufficient metacomprehension, stemming from deficient comprehension monitoring, is one cause of learning-disabled students' reading comprehension

problems. Using a reading-level match design, one-half of the subjects were learning-disabled students from grades eight and nine, and one-half were normally achieving students in the sixth grade. This study is somewhat unique because students from both the learning-disabled and the normally achieving groups were included in both the treatment and the control conditions. Subjects in the treatment groups were trained in a self-questioning technique focused on identifying important ideas in text. Learning-disabled students who received training predicted more important idea units and performed better on comprehension tasks than did untrained learning-disabled students. There were, however, no differences between trained and untrained normally achieving students. The authors concluded that limited metacognitive understanding is one cause underlying learning-disabled students' comprehension problems. They argued that the data discounts the notion that learning-disabled students have an ability deficit and support the view that learning-disabled students are "inactive learners".

### Summary

An interactional pattern will consistently show that less-able readers read substantially less than more-able peers; moreover, this is very evident in the developmental

college content area reading classroom. There is every reason to believe that these students learn not to be metacognitively aware. It may simply be the case that metacognitive awareness follows competence. As learners read more and become more automatic in their reading, and as they read material with which they are more comfortable and talk about it, they may ordinarily develop metacognitive awareness. However, the less-able students rarely have the luxury of either reading more or talking about their reading. Furthermore, their interactions may well have set them up to conceive of reading in entirely different terms than their more-able peers (Johnson & Allington, 1991).

Metacomprehension/metacognition attainment could indeed become a reality in a collaborative/cooperative college content area classroom if certain conditions are met. Indeed, there is now considerable research suggesting that cooperative learning situations are more appropriate than competitive situations for high-achieving as well as low-achieving readers (Johnson & Johnson, 1975; Slavin, 1984). In other words, mainstream and many minority children appear to benefit from a combination of group and individualized structures (Johnson & Allington, 1991).



A variety of instructional approaches have been designed to enhance students' metacognition (Paris, Wasik, & van der Westhuizen, 1988). Basically, the approaches can be grouped into interventions that teach and measure metacognition directly and instruction that promotes metacognition indirectly by teaching specific strategies (Paris, Wasik, & Turner, 1991). Both direct and indirect attempts to increase students' metacognition promote the five essential components of effective instruction outlined by Langer and Applebee (1986): ownership, appropriateness, structure, collaboration, and transfer of control.

#### College Developmental Content Area Reading Students

Godby (1984) stated that post-secondary education has undergone what could be termed a fast evolution or a slow revolution in that the number of traditional post-secondary students (academically-able, 18-year-olds from college preparatory schools) is decreasing. However, the students involved in this change are not purely disadvantaged, minority, working class students. These students are from all types of academic and social backgrounds imaginable. New academic open access policies have also changed the makeup of today's developmental college student.

College and governmental officials could not have predicted the incredible effect of opening access to higher

education. In 1970, the City University of New Yorks' rapid response to the challenge of open access resulted in an increase from the previous year of 35,000 students, a 75% increase, and the majority of these students would not have been admitted under traditional university criteria (Donovan, 1985). Many other institutions soon dealt with similar issues. At Southeastern Louisiana University in Hammond, Louisiana, there were 2,442 first time freshmen enrolled for the fall semester of 1995; there was a total of 1,578 developmental students enrolled at the University for that semester, with 807 of them being first time freshmen. During the fall semester of 1997 at SLU, a total of 1,681 developmental students were enrolled. Darby (1995) states that the open access policy, in combination with political, social, and economic forces, has created an incredible diversity that is both a source of frustration and a source of renewal.

The emergence of a "developmental" level population in our American colleges today is a fact that can no longer be denied. At Cal State L.A. and Cal State Dominguez Hills, where eight of ten freshmen arrive unprepared to do college-level work, the problems of those students represent business as usual, a never-ending game of catch-up. By 1994, 49% of Cal State entrants lacked necessary

English skills, while 54% could not meet the basic math requirement. These statistics mirror a national development, one so bad that 43% of businesses had to offer remedial training in 1995, reteaching reading, writing, and math, according to Training Magazine. Elaine Woo and Nora Zamichow (1996) reported in a recent edition of the Los Angeles Times that nationally, the number of companies providing basic skills courses for employees has exploded, and they cited a survey that reported that 43% of American businesses offered remedial training in 1995, more than double the percentage that reported doing so in 1984. Many of the employees at Motorola are former developmental level college students. At Motorola, an average of \$1,350 is spent each year per employee on six basic skill courses needed to prepare workers for routine retraining. Woo and Zamichow also reported that at Cincinnati Bell, supervisors may have to interview 300 people to find one qualified candidate for an entry-level position.

Developmental education is, increasingly, a necessity, a claim borne out by ACT score patterns of the last 30 years. In 1967, 14% of those taking the ACT had scores of 26 or higher, whereas 21% had scores of 15 (equivalent to today's 18) or lower. By 1994, although the higher end was essentially unchanged (13% at or above 27), the lower end

had grown significantly--34% had scores of 18 or lower. One manifestation of these scores has been the high demand for developmental education. In 1987-1988, 80.5% of all public four-year colleges offered remedial courses, as did 96.4% of all public community colleges. The 1992-1993 figures were not significantly lower--78.4% for four-year colleges and 95.6% for community colleges (National Center for Education Statistics, 1995).

Important distinctions between remediation and developmental education have evolved. Remediation serves students generally prepared to cope with higher education but needing to compensate for specific deficiencies in prior learning. According to Boylan (1995), students may fail because of low self-confidence, deficiencies in study skills, or a general lack of academic preparedness. Developmental education addresses this range of needs (Harris & Eleser, 1997). Boylan has described comprehensive developmental education as follows: it offers counseling, advising, tutoring, individualization, and special courses in study skills or critical thinking, as well as remediation.

Richardson and Elliot (1994) suggest that using the term "diverse" rather than "developmental" is actually more descriptive of community college students. Roueche and

Roueche (1993) acknowledge that poor academic skills are not the only issue facing these students; they say that these same students also bring an amazing constellation of other needs and demands on their time that further negates their chances for academic success--including economic instability, family responsibilities, and increased hours and demands from outside employment. Heathington (1987) states that in interviews conducted in the University of Tennessee Adult Reading Academy Program over several years, adult remedial readers have described not only their needs related to reading certain types of materials but also their feelings about reading; the impact the affective domain has on the adult remedial reader is very evident. It is important and imperative to consider the developmental reader and all he or she brings to the educational setting. Roueche and Roueche (1993) suggest using a variety of approaches to meet the needs of these students and suggest that if their needs are not met that academic disaster could very well result. Higbee, Dwinell, McAdams, GoldbergBelle, and Tardola (1991) suggest the importance of meeting the affective as well as cognitive needs of underprepared students, whether through existing services or through separate services.

Aaron and Baker (1991) emphasize that it has to also be remembered that poor readers in high school and colleges, barring some unusual circumstances, have been exposed to many years of reading instruction, which obviously has failed to produce satisfactory results. Roueche (1983) predicted that future post-secondary students would vary in age, experience, race, ethnicity, and ability to pursue college level work. His prediction was confirmed by Atkinson and Longman (1985) in their extension of a study by Lane (1984) which looked at 500 high school transcripts of entering freshmen at a major state university to determine the efficacy of increasing admission requirements. Students meeting the proposed requirements (95% enrolled in four years of English, 84% enrolled in three years of math, 40% enrolled in three years of social science, 35% enrolled in one year of computer science) were deemed by Lane ready for college work. Examination of first-semester transcripts of these students showed that almost half (48%) were enrolled in one or more developmental courses.

Flippo and Terrell (1984) demonstrated that the formal lecture approach and other traditional instructional approaches are ineffective with the developmental students. Roueche and Snow (1978) found that the instructors of

developmental students must make two important decisions when teaching developmental students: what is to be learned (must be interesting and practical) and what method will be used to teach the subject matter (must be varied and must involve computer type instruction). Instructional strategies that meet the needs of developmental learners must include multisensory approaches, individualization, active involvement of learners, understandable goals, manageable units, and frequent feedback (Cross, 1981; Gayle, 1982; Peterson, 1979; Roueche & Snow, 1978). The affective domain must be very evident in the developmental classroom, more so than in the traditional college classroom. Developmental students have experienced a great deal of "failure", and they enter college suffering from performance anxiety (Teegarden and Tarvin, 1982). Positive feelings and better self-esteem can be achieved in the developmental classroom as proven by Brown's (1993) study of 3,269 students in Tennessee community college classrooms. According to Turnbull (1986), success of developmental students increases proportionally with the amount of time, energy, and effort devoted to the learning process.

Boylan (1995) estimates that 30% of students entering U.S. colleges require remediation. At least 80% to 90% of

all institutions in the United States provide some sort of remediation (Boylan, Bonham, Bliss, & Claxton, 1992; Lederman, Ryzewic, & Ribaud, 1983). On the whole, these programs seem to have a positive effect on students' persistence (Boylan & Bonham, 1992), but some are more successful than others. Effective programs do not "hold students' hands forever," but instead provide a solid foundation for subsequent academic work (Levits & Noel, 1995). Ideally, they do not lower the standards of traditional academics, but rather raise the level of competence of developmental students so that they can meet existing standards. In essence, the goal is to broaden and diversify the range of students who can and do achieve success without changing the yardstick for success (O'Hear & MacDonald, 1995).

It is generally understood that developmental education is "designed to help students who have basic deficiencies in reading, writing, mathematics, or study skills prepare to do college level work" (Knopp, 1996). Unfortunately, however, many post-secondary skills-development programs function outside of the domain of "academic" departments; they teach strategies in isolation from the actual work to which they are meant to be applied and thus may fail to emphasize transfer of these skills to



actual coursework (Davis & Clery, 1994; Kluepfel, Parelius, & Roberts, 1994; Stahl, Simpson, & Hayes, 1992).

Statistics indicate that remediation/developmental programs do work. Data from South Plains College show that 86% of students who received remediation were retained; only 68% of those were identified as not needing remediation stayed in school. Across the board, remediation helped males and females and all ethnic groups stay in school--whether those students were academic or technical majors. Texas statewide data demonstrate that 72% of students who complete remediation earn a 2.0 or higher GPA, coming close to the 78% of students who do not need remediation. Even when we look at traditional college freshmen, despite more than a decade of educational reforms in the public schools, the national consensus is that the basic academic skills of high school graduates have not improved. Currently, as in the past, students who lack the skills to achieve but are encouraged to attempt college-level courses are given false hopes and unrealistic expectations (Platt, 1996). The at-risk developmental content area reading students, unfortunately, make up a large part of that population.

### Summary

The developmental college content area reading student often enters college as an at-risk student, regardless of age, race, academic skill, socioeconomic status, or metacognitive concepts. Wood and Algozzine (1994) state that for the first time in history, the United States has a set of national education goals and new American schools must be responsive to these goals; that all schools are places where students are exposed to curriculum content; that our students must leave our schools literate and ready for the challenges of the next century; and, that multidisciplinary perspectives will be required for teaching reading to high-risk learners in the next century. It is certain that businesses and corporations in America are vitally interested in doing anything and everything that we can in our colleges and universities today to produce better future employees--whether they begin as at-risk students in developmental college classrooms or not. Colleges and universities that have open access policies must indeed have developmental programs that work--whether it is teaching basic academic skills or teaching positive lifelong learning strategies. It is imperative, therefore, that a myriad of teaching methods, materials, and strategies are utilized in the developmental college

classrooms to assist this diverse population of developmental at-risk students. Since this type of student seems to desire a type of learning activity that will relevantly transfer to settings that are not academic classrooms, collaborative/cooperative activities will allow these students better opportunities to learn about activating their prior knowledge for utilization as both lifelong learners in the classroom and lifelong employees in the workplace.

## CHAPTER III

### METHODOLOGY

This chapter will provide a description of the investigator's research design. Functionally, the design was a qualitative approach incorporating specifically planned observations and detailed recordings of any noticeable effects generated by the implementation of an instructional model (named by acronym C\*A\*C\*T\*U\*S). The model collectively contains over twenty-four different collaborative/cooperative learning strategies for college level developmental at-risk students (Appendix A). Distinctions between qualitative and quantitative research as levels of measurement are noted. C\*A\*C\*T\*U\*S, the researcher-designed instructional model for reading, is described in terminology that will identify the strategies that are included; additionally, distinctions will be made regarding which strategies are better for vocabulary instruction and which are better for comprehension. The methods of gathering and analyzing the statistical pretest/posttest data as well as the observational qualitative data are also detailed in this chapter.

#### Types of Research Utilized

This type of study had proponents for both the qualitative level of research as well as the quantitative level of research. Combining these approaches in ways that

preserve the integrity of both method and findings presented an important research challenge (Morse, 1991a; Sandelowski, 1995). Bottorff (1997) suggested that the value of subsequent quantitative investigations lies in their ability to extend the results of a qualitative study in a complementary or corroborative but distinct way (e.g., to determine the distribution of X qualitative concepts in a particular population rather than to "test" or "verify" qualitative results per se). Qualitative researchers have pointed out that quantitative studies fall short in their ability to evaluate the full complexity of many qualitative theories and provide inconclusive and inadequate evaluations of these theories. It is possible that supporting evidence from quantitative research, if adequately grounded in aspects of a qualitative analysis, could potentially provide some level of confirmation about what the qualitative researcher knew all along or, alternatively, gives new directions for further inductive work (Bottorff, 1997).

For the present study the overall types of research utilized were a combination of qualitative and quantitative research so that during research implementation the integrity and the interpretation of each individual type of research would be enhanced and strengthened by the other.

### Research Design

This study incorporated a pre-experimental pretest/posttest portion for the purpose of comparing the likeness of population groups and a qualitative portion to test the effectiveness of the C\*A\*C\*T\*U\*S instructional model.

Figure 1 represents the progression of the original research design.

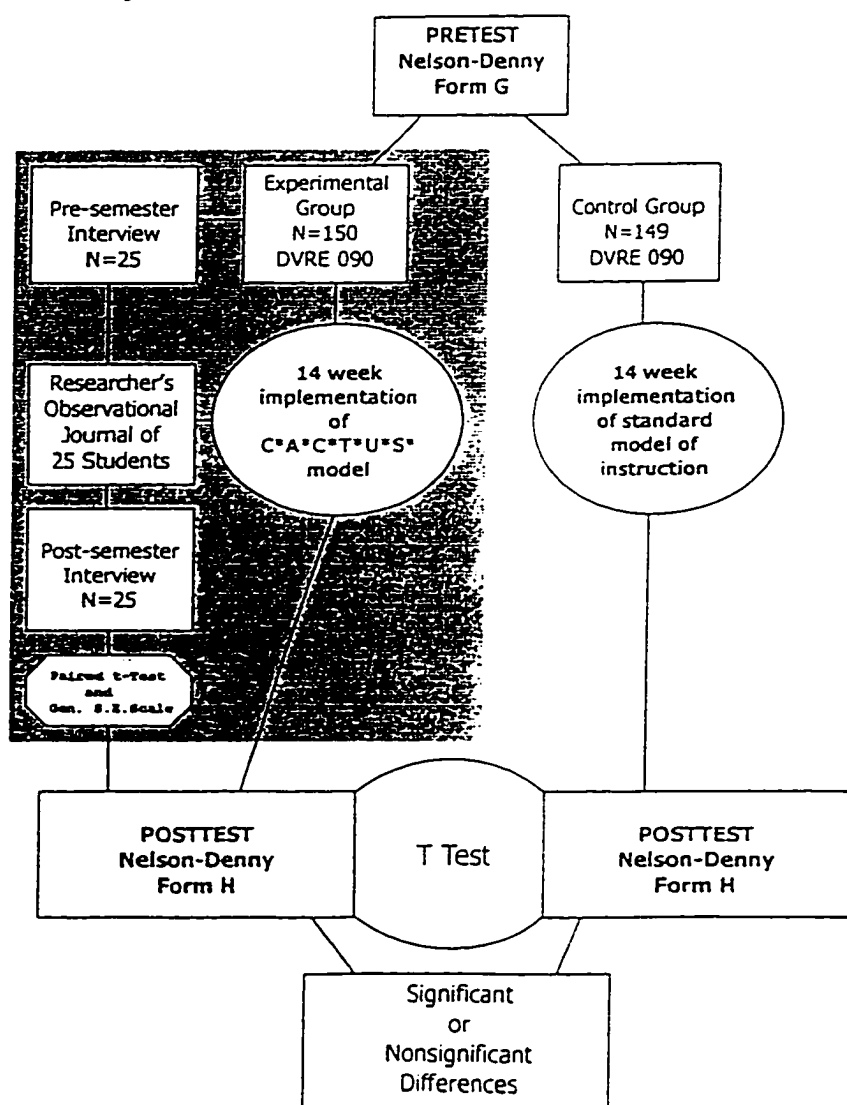


Figure 1. Visual of Research Design

A  $t$ -test was run on the Nelson Denny Pretest Form G taken by all students in both the experimental and control groups to compare the students' initial reading ability at the beginning of the semester. A  $t$ -test was run on the Nelson Denny Posttest Form H taken by all students in both groups to determine whether or not there were any significant differences in reading ability between those students taught via C\*A\*C\*T\*U\*S in the experimental group and the students taught via traditional methods in the control group.

A paired  $t$ -test was run on the Nelson Denny pretest and posttest results for the ten student subgroup drawn from the original experimental group. This test was run to see if there was any noticeable difference in the scores for the ten subgroup students after an entire semester of being exposed daily to the C\*A\*C\*T\*U\*S model of reading.

Also, since the literature repeatedly reflects that there may well be a gender difference in the Generalized Self-Efficacy Scale (with males having a higher self-efficacy rating) when utilizing both German and Chinese populations, the mean values were also compared on the five males and five females in the subgroup at the end of the semester when all ten students completed the Generalized Self-Efficacy Scale.

Qualitatively, the study focused on ten of the students in the experimental group - two students from each of the five sections of DVRE090 taught by the researcher (the subgroup had a total of five males and five females). Notes and observations were made daily on these students by the following methods of documentation: 1) an observational checklist on twenty-four separate descriptors for the construct of self-efficacy was monitored and completed by the researcher during the implementation of twelve specific strategies from the C\*A\*C\*T\*U\*S model - the strategies that were observed included the following: brain dominance attributes, inferencing with expository text, visual-auditory-tactile-kinesthetic modalities, survey-question-read-recite-review, terms in triads, true false verifications, reading difficult passages, vocabulary via bingo, marginal note triangles, timelines, alphabetized define and divide cards, and one question per unit; 2) a researcher-kept journal of narrative comments was made on each of the ten students during strategy implementations; 3) a presemester and postsemester one-on-one interview was completed with each of the ten students by the researcher; 4) taped recordings and video presentations on student-generated lessons filmed and recorded on presentation days complying with specific strategies were viewed and reviewed



by the researcher, and 5) student-generated artifacts in the various forms of mnemonigraph cards, E-mail assignments, and Internet research projects were also used. A frequency table report was run on the individualized observations of the ten student member subgroup regarding the twenty-four descriptive qualifiers for the construct of self-efficacy that the researcher used consistently as the observational documentary tool. (These observations were made during the implementation of twelve different reading strategies in the C\*A\*C\*T\*U\*S model from August through December of 1997.)

Using the various documentation methods mentioned above, the study focused on the actions of these ten at-risk readers for fourteen weeks as they learned, taught, and interacted with their fellow classmates to determine whether or not a specifically designed model of reading instruction would make a noticeable change in either the students' vocabulary/comprehension processing abilities or feelings of self-efficacy. The five previously identified documentation methods (Wansart, 1995) were used to carefully investigate whether or not any change would result from this type of interactive instructional model as opposed to the traditional, lecture model of reading. As pointed out by Pavese (1993), few, if any, research design

models that provide long-time goal oriented learning into the curricula for academically underprepared students have been undertaken.

A specific part of the study included a design objective which was stated as follows: to design an instructional reading model based on cooperative learning, active learning, and critical thinking unified strategies that specifically addresses techniques for improving both vocabulary and comprehension for the at-risk college level developmental reader. Pilot studies utilizing the C\*A\*C\*T\*U\*S model were initiated in the fall semester of January 1996 and were run for three consecutive semesters ending with the spring semester of May 1997 (involving a total of 288 developmental content area reading students at Southeastern Louisiana University). Various reading strategies and collaborative/cooperative activities that proved unsuccessful were either modified or deleted from the C\*A\*C\*T\*U\*S model during these pilot studies. Since the researcher was attempting to create an instructional model that would provide learning techniques that would specifically address both vocabulary and comprehension strategies, it proved very worthwhile to conduct the pilot studies. Students in the pilot studies were asked to assess the strategies used for both vocabulary and

comprehension at the end of each semester, and the researcher carefully adapted the strategies that seemed most productive into the evolving model. The ultimate and final "growth" instructional model centered around three base focal points: cooperative learning, active learning, and critical thinking - all unified into reading strategies that involve reading, writing, and thinking. (See Figure 2.)

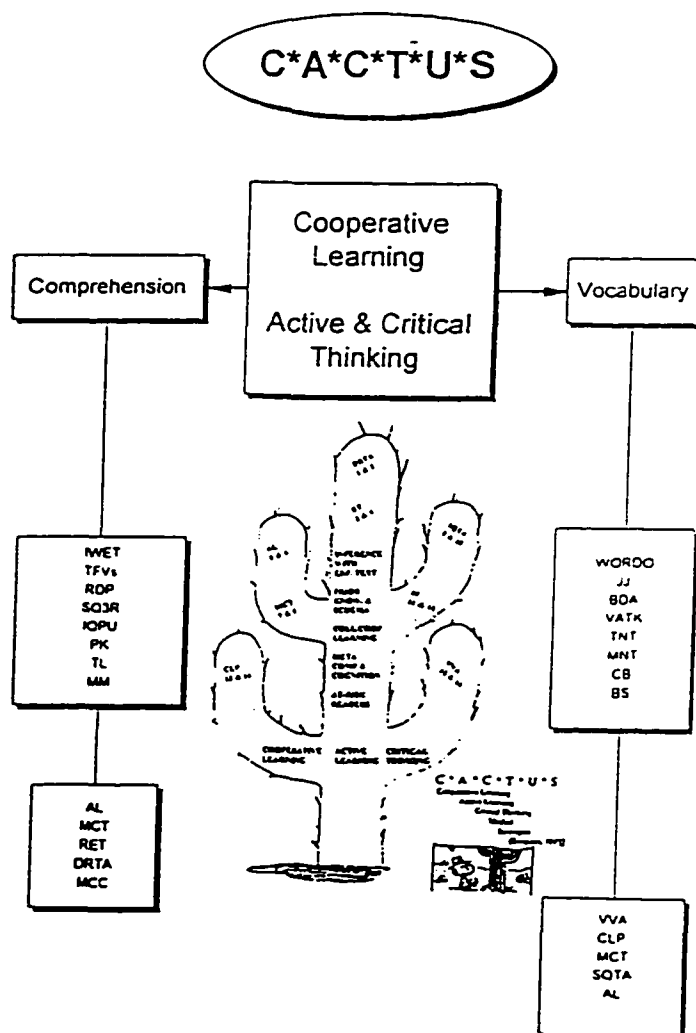


Figure 2. Visual of C\*A\*C\*T\*U\*S Model of Reading

Building vertically upon these concepts were the next five parts of the model: the at-risk developmental reader, metacomprehension and metacognition, collaborative/cooperative learning, activation of prior knowledge and schema, and inferencing with expository text. Branching from these constructs were the eight major reading strategies utilized in the model: directed reading thinking activity (DRTA), reciprocal teaching (RT), active learning (AL), modeling cooperative teaching (MCT), Socratic questioning with think alouds (SQTA), metacognition (M), cooperative learning process (CLP), and vocabulary via analogy (VVA). Then, evolving from these eight major strategies were sixteen mini-strategies: inferencing with expository text (IWET), true-false verifications (TFVs), reading difficult passages (RDP), curveballs (CB), WORDO, jigsaw jargon (JJ), mind-maps (MM), survey-question-read-recite-review (SQ3R), prior knowledge (PK), one question per unit (1QPU), brain dominance attributes (BDA), visual/auditory/tactile/kinesthetic modalities (VATK), terms in triads (TNT), marginal note triangles (MNT), timelines (TL), and bumper stickers (BS). Finally, the model was broken down into the two major components of reading instruction, comprehension, and vocabulary.

For the comprehension aspect, the following strategies were utilized: active learning, modeling cooperative teaching, reciprocal teaching, directed reading thinking activity, and metacomprehension and metacognition. The mini-strategies utilized in support of the comprehension techniques were as follows: inferencing with expository text, true-false verifications, reading difficult passages, survey-question-read-recite-review, one question per unit, prior knowledge, timelines, and mindmaps. For the vocabulary aspect, the following major strategies were utilized: vocabulary via analogy, cooperative learning process, modeling cooperative teaching, Socratic questioning with think alouds, and active learning. The mini-strategies utilized in support of the vocabulary instructional techniques were as follows: WORDO, jigsaw jargon, brain dominance attributes, visual/auditory/tactile/kinesthetic modalities, terms in triads, marginal note triangles, curveballs, and bumper stickers.

#### Selection of the Participants

The initial study involved 150 students in an experimental group and 149 students in a control group. The students were all enrolled in Developmental Reading 090 at Southeastern Louisiana University in Hammond, Louisiana during the fall 1997 semester. Southeastern Louisiana

University is an open-admission, commuter college with an enrollment of 15,000 students. A large segment of the College of Basic Studies at SLU is comprised of the Department of Developmental Education. During the fall 1997 semester, there were approximately 1600 students enrolled in Developmental Education at SLU. The present study commenced August 25, 1997. The actual number of students selected for this study consisted of an experimental group of 123 DVRE090 students and a control group of 109 DVRE090 students as listed in ten computer-selected intact sections of developmental reading at Southeastern Louisiana University for the fall 1997 semester. Although fewer than the initial research plan, this final number was controlled by the actual course registration process. During the first week of class, on August 26, 1997, a student worker was asked to randomly draw 25 names from five boxes filled with social security numbers for the five experimental group sections (Appendix B). Upon suggestion of the investigator's Graduate Committee at the proposal approval meeting on October 3, 1997, when the C\*A\*C\*T\*U\*S model was fully into daily implementation, the researcher selected ten names from the twenty-five students previously drawn by the student worker (see Figure 3). These ten students formed the subgroup and

served as the students who were daily observed by the researcher as each new strategy was introduced to all of the students in the five sections of the experimental group.

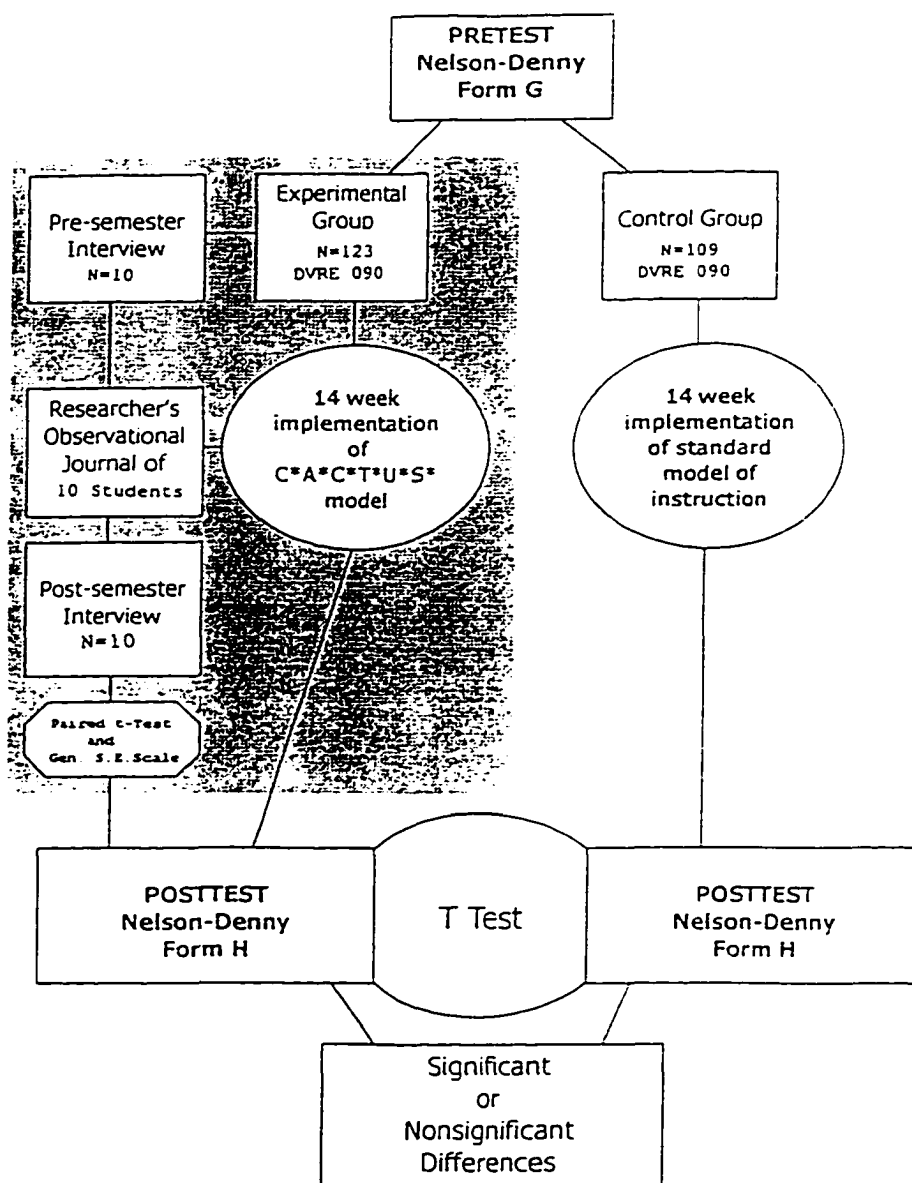


Figure 3. Visual of Modified Research Design

Other forms of documentation were received from the ten student subgroup via mnemonigraph vocabulary cards, E-mail assignments, journal entries, portions of taped and video recordings on student-generated lessons, and student generated Internet research projects. The only difference in treatment of the ten students was a presemester interview and a postsemester interview - conducted by the researcher. The ten students did not realize that they were being observed daily by the researcher while they were collaboratively working with other students throughout the semester.

The ten students drawn from the total group came into the developmental program with a composite of 17 or below on their ACT test scores (Appendix C). Some of the ten students came into the program with a reading score of only 8.2, while others entered the program with a reading score of 10.9; however, none of the ten students came into the program with a reading score of better than 11.0. Each of the ten students became part of a six-member group (family) in their respective sections for a semester. The researcher carefully avoided letting any of the five sections have two of the subgroup students in the same "family" or group.



### Data Collection

Formal observations for the present study were initiated in August of 1997 and were run through December of 1997. Final reports, observations, and tabulated statistics were completed by December 15, 1997.

As previously stated, each of the students comprising the ten member subgroup was observed daily by the researcher and interviewed in a presemester/postsemester setting. Other than that, the ten students received the very same treatment as did all of the students in the experimental group instructed via C\*A\*C\*T\*U\*S. For these ten students, the researcher kept charts on quiz scores, number of points accumulated for homework/classwork/groupwork, literary letters on E-mail, dialogue journals, strategy journals, mnemonigraph vocabulary cards, and oral book reports on at least 1400 pages of recreational reading by the authors of their choice (Appendix D). There were twelve vocabulary quizzes in analogy format (Appendix E), and the collaborative groups were often involved in active learning when teaching one another the definitions of the 150 words selected with the type of analogy that was being utilized to look at word relationships. The C\*A\*C\*T\*U\*S model's strategy called VVA employs twenty different methods to look at word relationships. Data was also

collected from quizzes on different chapters taken from college textbooks as well as chapters on study skills and different learning techniques associated with both the standards and the elements of reason in critical thinking. These six chapter quizzes (Appendix F) on study strategies, learning styles, and actual textbook information from a music, sociology, and world history chapter came from a developmental college content area reading text entitled Strategic Thinking and Reading (1997). Data was also collected from activities by way of group work collective scores from cooperative and active learning (Appendix G). The numerous charts and researcher-kept observational journal entries compiled for these ten students identified which strategies involved in the C\*A\*C\*T\*U\*S model seemed more appropriate and/or successful during the fourteen week implementation.

A t-test involving the Nelson Denny Pretest Form G and a t-test involving the Nelson Denny Posttest Form H were run on the 123 student DVRE090 experimental group and the 109 student DVRE090 control group. Additionally, a paired t-test was run on the Nelson Denny pretest and posttest results for the ten student member subgroup drawn from the original experimental group. Also, a frequency table report was run on the 1,378 individualized observations of

the ten student member subgroup regarding the twenty-four descriptive qualifiers used in the four components of the construct of self-efficacy. Overall means by gender were also run on the results from the Generalized Self-Efficacy Scale which was administered to the five females and five males in the student subgroup at the end of the semester. Qualitative documentation methods have been previously discussed on the ten student subgroup in the form of observations, interviews, journals, recordings, and artifacts.

Each of the ten students in the subgroup were identified by a letter of the alphabet on all records and charts and interviews that indicated to the researcher alone which of the ten they were.

Permission to complete this study was obtained from the Southeastern Louisiana University Department of Developmental Education Department Head, Dr. Sarah Spence (Appendix H).

### Delimitations

The students used in this study were restricted to one commuter college in southeast Louisiana; therefore, the demographics of the population of the college are typical only to southern, rural commuter-type campuses. The results of this study, therefore, are generalizable only to

"at risk" developmental students at this commuter college and at colleges that (a) are an open admission university; and (b) serve similar proportions of educationally underprepared, economically disadvantaged, and multicultural students.

In this particular study, the researcher-designed collaborative/cooperative instruction reading model (C\*A\*C\*T\*U\*S), the individualized journal writing, the interaction among students and researcher, were observed as affecting the students' self-efficacy in personal characteristics, interpersonal learning styles, career factors, and motivational attributes. Other factors also affected the students' self-efficacy, and these factors are phenomenological in nature and cannot be realistically controlled. Included in these phenomenological experiences are: (a) instruction in other developmental courses such as DVEN090 (developmental English) and DVMA092 (developmental math); (b) interaction with other instructors and counselors; and (c) general overall maturation and social development.

Finally, the number of subjects in both the experimental group and control group was less than had been originally designed. Initially, the study was to include 150 students in the five sections of DVRE090 that composed

the experimental group and 149 students in the five sections of DVRE090 that composed the control group of students at SLU during the fall 1997 semester. Because of various reasons, students either withdrew or dropped out during the semester leaving a total of 123 students in the experimental group and 109 students in the control group. Also, the researcher was the instructor for the five sections comprising the experimental group, and two other instructors taught the students in the five sections of DVRE090 comprising the control group. It is entirely possible that some of the same strategies used by the researcher were also utilized by the other two instructors since all classes were taught at the same university during the same semester utilizing the same textbook. Also, the ten subgroup students' names were randomly drawn for observation by the researcher; it is entirely possible that different observations and notations would have been made throughout the semester by the researcher had other students' names been randomly drawn from the original subgroup of twenty-five students.

### Summary

In this chapter, the original research design, the finalized instructional reading model (C\*A\*C\*T\*U\*S), the modified research design, the materials, and the five

specific types of qualitative methods of documentation for the study were discussed. Methods of analyzing both the quantitative and qualitative data as well as the delimitations have been described. The findings and results of the research are discussed in Chapter IV, followed by the summary, conclusions, and recommendations in Chapter V.

## CHAPTER IV

### FINDINGS

The findings presented in this chapter are based on two different parts of the investigation herein: collaborative/cooperative learning effectiveness with an instructional model based on cooperative learning, active learning, critical thinking unified strategies; and, any emerging themes and/or identifications concepts connected with the construct of self-efficacy in a college classroom when such a model is implemented for a fourteen week semester, as previously reported in Chapter III. This chapter will begin with a brief restatement of the study's four objectives. This will be followed by a description of both the quantitative and the qualitative findings of the investigation. Finally, the concluding remarks of the chapter will highlight any and all aspects of the findings that require specific attention and notation in the conclusion and recommendation sections of Chapter V.

#### Capsuled Findings for Research Objectives

The first research objective of the present study was to design an instructional reading model based on cooperative learning, active learning, and critical thinking unified strategies (named by acronym C\*A\*C\*T\*U\*S) that specifically addresses techniques for improving both vocabulary and comprehension for the at-risk college level

developmental reader. Since this objective was specifically created for design documentation, the elements of description for strategy implementation were discussed in Chapter III.

The second research objective of the study was to compare an experimental group of at-risk readers instructed via the C\*A\*C\*T\*U\*S model with those students in a control group of at-risk readers instructed via traditional methods on reading ability as measured by the Nelson Denny Reading Posttest Form H. A  $t$ -test was used to determine any significant differences in the overall posttest results of the students taught with C\*A\*C\*T\*U\*S when compared with the results of the students taught traditionally. The  $t$  of the pretest, 1.63, showed the two groups could be considered equal in ability when the study commenced. The  $t$  of the posttest, 3.68, at the end of the semester did indicate a significant difference between the two groups at the .05 level which does, in fact, give support to the positive implementation effects of the C\*A\*C\*T\*U\*S model.

The third research objective of the study was to determine whether or not there were any detectable changes in the self-efficacy concepts of a group of students of at-risk postsecondary readers following a fourteen week implementation of C\*A\*C\*T\*U\*S. Looking at the twenty-four



descriptive qualifiers (described at length herein) that were observed for twelve specific reading strategies taken from the C\*A\*C\*T\*U\*S model and actually implemented in the classroom, it was noted that the four qualifiers that appeared most frequently as the semester progressed were as follows:

1. independent (5.37%)
2. sociable (6.53%)
3. structured (6.60%)
4. accomplishment (6.39%)

The fourth research objective of the study was to identify any and all emerging themes of learning and/or personal identification concepts that were evident in a group of students drawn from an experimental group of at-risk postsecondary readers instructed via the C\*A\*C\*T\*U\*S model for one semester. Reviewing the myriad of instruments and materials used for documentation for this objective, the following themes of learning and identification concepts were noted:

1. confidence in expressing opinions on controversial topics
2. enhanced personal learning ability
3. decreased fear of technological assignments (Internet or E-mail)
4. self-confidence as lifelong learners
5. appreciation of recreational reading
6. individualized leadership qualities
7. competencies for college degree attainment
8. positive feelings about a creatively contagious learning environment
9. camaraderie/trust among group members

10. bonded friendships outside of classroom
11. reliance on participatory group endeavors
12. better organizational skills
13. deletion of nonparticipatory behavior
14. structured, social peer instructors
15. appropriate study-behavior itinerary
16. no competitive rivalry
17. willingness to disperse gathered research
18. extroverted group interdependence
19. engaged consumers of publicized current events
20. verbally profuse communicators through computer usage

### Quantitative Descriptive Statistic Findings

The second research objective of the investigation was to use posttest scores from the Nelson Denny Reading Test Form H from students in an experimental group instructed via C\*A\*C\*T\*U\*S and compare those scores with the posttest scores from students in a control group instructed via traditional methods for one semester - using at-risk readers enrolled in a developmental college level reading course (DVRE090 at Southeastern Louisiana University). A  $t$ -test was run on the pretest scores of all students in the experimental group at the beginning of the fall 1997 semester ( $M=8.89$ ,  $SD=1.5\%$ ,  $n=123$ ) as well as all students in the control group ( $M=9.20$ ,  $SD=1.30\%$ ,  $n=109$ ) to determine if there were any significant differences between the two groups at the .05 level (see Table 1). The results showed  $t(230)=1.616$ ; however, the Equal Variance Test was rejected (Appendix I). Therefore, the Aspin-Welch Unequal Variance Test was used to determine if there were any significant

differences at the .05 level. The results were  $t(228.9)=1.635$ , thus there were no significant differences at the .05 level, and thus the experimental and control groups were considered to be equal for the purposes of this investigative study.

Table 1

Experimental and Control Group Nelson Denny Pretest Scores

	Exp. Group	Control Group	Difference	t
<u>n</u>	123.00	109.00	14.00	---
<u>M</u>	8.89	9.20	.31	1.61
<u>SD</u>	1.57	1.30	.27	---

Table 2 shows the results of the Nelson Denny Reading Posttest given to these same students in both the experimental and control groups at the conclusion of the fall 1997 semester.

Table 2

Experimental and Control Group Nelson Denny Posttest Scores

	Exp. Group	Control Group	Difference	t
<u>n</u>	123.00	109.00	14.00	---
<u>M</u>	11.28	10.40	.88	3.68
<u>SD</u>	1.65	1.99	.34	---

The results of the Nelson Denny Posttest mean for the experimental collaborative/cooperative learning group was

11.28 ( $SD=1.65$ ) with an  $n$  of 123. The mean of the Nelson Denny Posttest for the traditional lecture method control group was 10.40 ( $SD=1.99$ ) with an  $n$  of 109. The  $t$  test,  $t(210.5)=3.63$ , was used to determine if there were any significant differences in the overall posttest results of the experimental group students when compared with the scores of the control group students, and the  $t$  of 3.68 indicated a significant difference at the .05 level (Appendix J).

Scores were looked at for the ten students in the subgroup who took the Nelson Denny Form G test as a pretest (or placement test) when entering DVRE090 and scores on the Nelson Denny Form H test as a posttest (also used as an exit test for DVRE090 with a cutoff score of 11.0). The posttest scores on the Nelson Denny Form H test are used to determine whether or not a student may enter the next course, DVCT090 (see Table 3). To enter this course of critical thinking, a DVRE090 student must score 11.0 or above on the Nelson Denny posttest since DVRE090 is a prerequisite course for DVCT090 at Southeastern Louisiana University. At the end of the semester, a paired  $t$ -test was run on the ten student subgroup that indicated a mean of 9.75 ( $SD=.94$ ) on the pretest and a mean of 12.04 ( $SD=.99$ ) on the posttest indicating a  $t$  value of -6.40

(Appendix K). These means have a significant difference at the .05 level (see Table 4).

Table 3

Ten Member Experimental Subgroup Pretest/Posttest Scores

Student	Pretest	Posttest
A-2	9.5	10.8
A-3	10.9	11.6
J-1	10.9	11.3
J-5	9.7	13.3
K	9.7	12.9
M-2	10.9	13.5
N	8.2	10.8
S	8.7	12.3
T	9.1	11.6
W	9.8	12.3

Note. Students were randomly sampled from 25 member subgroup of original design.

Table 4

Paired t-Test Report for Ten Student Subgroup Scores on Pretest/Posttest Nelson Deny Reading Tests

Test	n	Mean	SD	SE
Pre	10	9.74	0.940	0.297
Post	10	12.04	0.977	0.309

$t = -6.40$

Additionally, at the end of the semester the ten student members of the subgroup were given the opportunity to complete the Generalized Self-Efficacy Scale

(Appendix L). The ten-item sum score has a range from 10 to 40, due to the 1 to 4 response format. The mean score for the five male members of the subgroup was 33.20 while the mean score for the five female members of the subgroup was 24.20 (see Table 5).

Table 5

Scores of Ten Member Experimental Subgroup on the Generalized Self-Efficacy Scale by Gender

Student	Male	Female
A-2		24
A-3	37	
J-1	35	
J-5		30
K		20
M-2	32	
N		22
S		26
T	29	
W	34	
Means	33.20	24.20

### Qualitative Descriptive Findings

Two of the research objectives in the study involved detectable changes in the self-efficacy construct as well as emerging themes of learning and/or personal identification concepts in a group of at-risk readers as demonstrated by ten students drawn from an experimental group of 123 students enrolled in Developmental Reading 090 at Southeastern Louisiana University during the fall 1997 semester.

As Pavese (1993) wrote, there is a serious lack of precedented research in using collaborative/cooperative learning as a means to assist at-risk college level readers. Therefore, certain guidelines have to be followed when attempting to define the actual process of interaction of the students during strategy implementation.

Incorporating some of the guidelines evolved by Wansart (1995), Slavin (1983), and Johnson and Johnson (1987), the researcher sought to reinforce documentation methods by the following methods:

- using notetaking in the form of observational checksheets and a researcher-kept journal
- using student dialogue/strategy journals
- using presemester and postsemester interviews
- using taped and video recordings of student-generated lessons
- using student created artifacts

The researcher continually encouraged all of the students in the experimental group to express their own expertise and/or frustrations any time a particular strategy or group activity from C\*A\*C\*T\*U\*S was implemented.

#### Utilization of Student Journals

Quotations from any journal entries, interviews, or recordings herein are presented with pseudonyms to protect student anonymity. The journals were used daily by the students for a variety of reasons: to record strategies, to work on vocabulary, to decide on points of view, to locate and name inference types, to express personal opinions, to give personal reflections, to raise issues not covered on a particular assignment, or to state differences or confrontations that occurred during a particular group assignment (Appendices M and N). Since this particular collaborative/cooperative instructional model enabled the students in the experimental group to become creative, take risks, express strong and personal reactions, and to predict answers/solutions both individually and as a group, the following entries and statements from the student journals reflect a variety of categories. The "constant comparative method of analysis" was used for analysis of all ten students' journals (Glaser & Strauss, 1967). The researcher completed an initial reading of all ten



journals, and then each entry utilized was broken down into transcribed paragraphs on index cards. The paragraphs were then sorted by the researcher according to categories which emerged from the initial reading of the full entries and were refined during the sorting process (Strauss & Corbin, 1990). According to Bogdan and Biklen (1992), data analyzed in this way provides a descriptive theory around which to organize phenomena (El-Hindi, 1997).

The constant comparative analysis for the researcher's study revealed seven major categories: (a) confidence in expressing a personal opinion; (b) enhancement of learning ability due to focus on individualized learning style; (c) less fear about doing research via the Internet and college assignments completed via e-mail; (d) more confidence as a lifelong learner due to working with a "family" (group) for fourteen weeks; (e) a greater appreciation for recreational reading; (f) greater assurance of both exhibiting and possessing leadership qualities; and (g) more positive attitude about actually graduating from college. Entries are recorded verbatim, as written by the students using both their spelling and syntax.

(a) Confidence in expressing a personal opinion.

Marcus: "I feel more confident about expressing my opinion after this semester because I really got to know people and how to talk to them."

Ashley: "I feel more confident about expressing my feelings because each of us have an opinion and are able to express ourselves."

Marlice: "It's not good to keep things to yourself all the time - I like to say what's what."

John Paul: "I have been able to come up with more educated opinions; therefore, I don't feel as awkward sharing my opinion."

Kristi: "I like this because I feel I should have nothing to feel ashamed of so I ask questions."

(b) Enhancement of learning ability due to focus on individualized learning style.

Kristi: "I am a right brain student, and I now study with a left brain student."

John Paul: "I will use my learning style to schedule my classes now."

Wayne: "I know that I'm a right brainer/visual, and I know how to study effectively now."

Alfred: "I am sure that my learning has been enhanced since I now know that I'm a left brainer/auditory student."

Ashley: "Now that I know what type I am (right kinesthetic), I do feel this will enhance my learning style."

Tim: "I feel that my learning style, which is left brain, tactile, will enhance my learning. I know this because it already has improved my study habits."

(c) Less fear about doing research via the Internet and college assignments via e-mail.

Ashley: "I have learned that it's just a computer, and you are really in control."

John Paul: "Since the first e-mail assignment, I've been e-mailing all my friends. It's a lot of fun."

Nicole: "This is still frustrating to me because I could never get a e-mail sent and because I had problems with the Internet. I know I have to do better."

Janna: "I think this is the greatest way to learn since sliced bread."

Tim: "I love the Internet and e-mail projects. Because it's interactive work outside of room, that's good."

(d) More confidence as a lifelong learner due to working with a "family" (group) for fourteen weeks.

Janna: "Having someone to help you understand and learn is a great motivator of learning. We are all in it together. So we need to help each other out. I feel very close to my family.:

Nicole: "Working with my family helped me in every way. I became to think that they are really part of me because they helped me so much with everything."

Marlice: "Sometimes when I was right/wrong, my family was their to help and give suggestions on why/why not the problem was correct."

John Paul: "Working with other people gave me a chance to give my views and also see the views of others. a good leader needs to do that when facing situations. This is a very mandatory step when learning to do something also. I learn things much easier now."

Alfred: "Working with my family made me confident as a learner because the students enteracted with one another and that prepares you for the working world."

(e) a greater appreciation for recreational reading.

Wayne: "I like reading more now than I did in August because reading is easier."

Nicole: "I don't dislike reading as much as I did before this class."

Alfred: "To tell you the truth, I liked reading more now than I did in August, 1997 because having book reports due made me read and I sort of begun to like reading."

Ashley: "I dont dislike reading that much anymore because I have found some interesting books that keep me focused."

Kristi: "I like reading better, I am more motivated."

(f) Greater assurance of both exhibiting and possessing leadership qualities.

Marcus: "After this semester I feel more like a leader because a few times people came to me for help and I was able to lead them in the right direction."

Alfred: "I feel more like a leader not because I feel superior but because I feel more mature."

Kristi: "I feel like a leader now more than anything because we help each other out and they do not laugh or pick on you when you do not know something, they help you out."

Tim: "I felt like a leader fourteen weeks ago and I still feel like one now. But I have enjoyed working with everyone in this class. I got to experience different age groups vs. high school where everyone is pretty much the same age."

Marlice: "In some ways I feel like a leader, but everyone always had their input."

(g) More positive attitude about actually graduating from college.

Alfred: "I do feel more confident about graduating from college because in this class I might have mess up one week, but I cameback the next with a better grade."

Tim: "I'm really motivated about going on to Critical Thinking and going into my major courses. I'm excited and can't wait to graduate."

Nicole: "Yes, I'll graduate because I know how to learn a variety of ways. I did not know that you could learn different ways."

Janna: "I feel ok about graduating from college after this semester of working with others in our class because I know the best ways to study and learned not to be scared to express your opinion."

Marlice: "Yes, I feel that I have accomplished so much. Attending college is a overwhelming desire I have had for a few years."

#### Utilization of Student-Teacher Pre/Postsemester Interviews

Although all 123 involved in the experimental group used journals along with the collaborative/cooperative instructional C\*A\*C\*T\*U\*S model, the researcher interviewed ten of the students who composed the experimental subgroup. The presemester interview took place on September 4, 1997, which was one week before the full model was implemented, and the postsemester interview occurred after the collaborative/cooperative learning experiment had been completed on December 1, 1997. There were 15 questions used in the presemester interview and 13 questions used in the postsemester interview (Appendices O and P).

In response to presemester interview question number five, "During high school did you consider yourself a leader," and in response to postsemester interview question number four, "After working with your family for fourteen weeks, do you feel more like a leader," the following were noted:

John Paul: Presemester: "No, I was kind of shy."  
 Postsemester: "I feel more in charge of situations at home, too. I'm thinking a lot clearer than ever."

Nicole: Presemester: "I was not a follower."  
 Postsemester: "I have always been my own leader."

Kristi: Presemester: "I tried to get people to do the right thing."  
 Postsemester: "I feel more outspoken than I did before I entered this class."

In response to presemester interview question number twelve, "How do you feel about working with others in groups," and in response to postsemester interview question number thirteen, "Do you think that working with your "family" on vocabulary checks and class projects helped you develop more confidence in yourself as a learner," the following were noted:

Wayne: Presemester: "It is okay, I would rather work by myself."  
 Postsemester: "Yes, I have gained confidence because we learned from one another when working in groups."

Nicole: Presemester: "I like it, only if I can pick my group partners."  
 Postsemester: "Yes, I liked working with my family. There was some things I did not know about myself."

Kristi: Presemester: "I feel they should be committed to working with others. Sometimes I like to work by myself."  
 Postsemester: "Yes, I liked it because you had input from other students and had the chance to express yourself."

Ashley: Presemester: "It depends on what we're doing. I like to do my own work, but I like to check it with others."  
 Postsemester: "Yes, I liked group work because everyone or someone may have had the same question as me and it was not a stupid question after I found out I wasn't the only one thinking of that question."

In response to presemester interview question fourteen, "What do you expect to learn from this course," and in response to postsemester interview question number twelve, "Do you feel that your expectations of this class (and of me as the instructor) were met this semester," the following were noted:

Tim: Presemester: "How to do better in reading and English."  
 Postsemester: "Yes, because I learned something new everyday."

Alfred: Presemester: "How to read good."  
 Postsemester: "I think I will be a stronger student because Ms. Simpson showed us how to study."

Kristi: Presemester: "Study skills and vocabulary."  
 Postsemester: "Yes, It was a very interesting class which kept me motivated."

John Paul: Presemester: "How to comprehend what I read better."  
 Postsemester: "I didn't expect to learn this much from a reading class. I've learned reading strategies, vocabulary words, history, music and essay writing. I learned a lot. And I didn't know there was so much to cover in one semester."

In response to presemester interview question number thirteen, "Why do you think you placed into developmental reading," and in response to postsemester interview question number eleven, "Do you think that you will be a stronger student in critical thinking in the Spring because of this class," the following were noted:

- Nicole:           Presemester: "Because of my ACT scores."  
                  Postsemester: "Yes, because of the teacher I had for this particular class."
- Kristi:           Presemester: "Because of a lack of interest in reading books."  
                  Postsemester: "Yes, because of the background I was given in reading and the motivation I now have to do better."
- John Paul:       Presemester: "I cant take my ACT under time. I need time to think."  
                  Postsemester: "Yes, hopefully. Because the knowledge I have acquired will help me to study a lot better."
- Wayne:           Presemester: "I cannot take timed tests."  
                  Postsemester: "Yes, because the vocabulary tests with different methods required critical thinking and vocabulary checks."
- Marlice:          Presemester: "Because I am not a standardized test taker."  
                  Postsemester: "Yes, I do because I was able to get a lot out of this class, and I have to thank God first, Ms. Simpson next, and me last."



Janna: Presemester: "Because of standardized time tests and my ACT composite score."  
 Postsemester: "Yes, but I like the people in this class. This class has helped me in areas I thought reading wouldn't teach. This class should be after critical thinking."

Ashley: Presemester: "Because of knowing I am timed."  
 Postsemester: "Yes, because this class has taught me how to study and keeps you on your feet."

#### Utilization of Teacher-Researcher Documentation Methods

As previously states, in a teacher-researcher action-oriented research investigation there are numerous methods to use to document student ability and/or achievement. Some of the methods previously described include notetaking, tape recordings, video recordings, interviews, and actual student-created artifacts. The following methods discussed below were used by the researcher in preparation for the final summative evaluation.

#### Tape Recordings/Video Recordings

In response to several culminating end-of-the-semester group activity assignments, the researcher used both audio and video recordings of ten students in the subgroup experimental group for various assessments and observations. One of the activities involved a "group created reflection" cassette tape. The group was to collaborate and write for one fifty minute class session at

the end of the semester and collectively come up with a summative two-to-three-minute cassette tape that reflected how the group responded to the collaborative/cooperative instructional model that they had been exposed to for fourteen weeks in DVRE090. Each individual in the group had to also turn in his/her paragraph in written format along with the taped group paragraph on cassette. Some of the paragraphs submitted by the ten subgroup students are included below. Again, entries are recorded verbatim, as written by the students using their spelling and syntax.

Kristi: "Over the course of the semester, I have acquired various skills from my Reading class. The approaches we used have enhanced my understanding greatly. The methods such as chunking by 3's and SQ3R has helped me in other courses that I am now taking. The vocabulary makes me not only know the definitions but understand them by using the mnemonigraphs method. All of the methods and techniques have all contributed to me learning how to think critically. Now that I have been in this course I think it has given me a strong background for any class I have to take next for my major. Learning how to divide up a chapter, is very important in any course you have to take. I am very glad I have had the opportunity to have learned this technique. Taking this course has given me high self-esteem that I will now graduate college not only on time but also with high grades."

Marcus: "Collaborative and Cooperative Learning was very beneficial to me in helping me to learn how to take apart a college chapter. College is a big change and new study skills were in demand. I used these creative skills to make notes to study from, so that

I would be able to improve my study skills. Using this tactic finding vocabulary is made easier on my behalf. After fourteen weeks of this course I have a more positive attitude towards studying. Working with others, personally made this course exceptional, it took learning to another level. With these tactics I feel that I will be a successful college graduate."

Wayne: "I feel the collaborative/cooperative learning was very beneficial to me. By working in a group with other students' ideas and new techniques of learning, it also taught me to work as a team. Learning how to take a college chapter apart was also beneficial; it showed me the main ideas for the chapter, important concepts, and questions an instructor would likely ask on an examination. The twenty analogy methods were of great help in learning the vocabulary words. I feel more confident working in groups after this class than I did in high school. Learning how to work with others is a lifetime benefit; I will use these skills the rest of my life. I was leary of graduating from college before I took this class; now, I'm confident with knowing how to take a college chapter apart as well as other skills and techniques, I will graduate."

Ashley: "The collaborative/cooperative approach you used was great. You kept the class interested, and was very encouraging. Throughout the semester I have used the study methods you showed us. It was very helpful to learn what type of learner I was and whether I was a left or right brainer. Most teachers would not take the time to help or show their students study methods. This approach was beneficial and working in groups did help me personally. I also have confidence that I will graduate from college."

Marlice: "The collaborative/cooperative learning approach was indeed beneficial to my college learning. I really enjoyed learning new ways to use vocabulary and dividing chapters for easier use. This approach allowed time to be used wiser as well as learning more. I feel that mnemonigraphs helped out a tremendous deal because it allowed critical thinking to come into place. Learning how to divide a chapter into sections does in fact make a difference by using this approach, the most important facts that are in the chapter appear to come into existence quicker and better. I sincerely believe that now that I have experienced the collaborative/cooperative learning approach, I will truly be able to progress in my future studies. Working with others in class does indeed allow some of the working pressure to decrease because using two or more brains are better than one. I truly feel that I will graduate from college now within a four-year time frame."

Video recordings were also used by the researcher to document ability and/or achievement throughout the semester. Although all of the students in the experimental group were participants in different video assignments, the researcher paid particular attention to any and all progress made by the ten students in the subgroup. The researcher also used the lessons the students "taught" on video as assessing tools for the other sections of DVRE090 in the experimental group. For example, a video lesson "taught" on Beethoven by Section 01 was critiqued and discussed by Section 03 and so forth. Since all of the students involved were covering the same subject matter,

this was a viable teaching tool. Students were given a teacher-designed checklist to help with the video assessment critiques, but they were also asked to add personal constructive criticisms which were shared with the students who actually "taught" the lesson. It became evident by the end of the semester that "family" groups were hard on any group member who did not show up on presentation video day. It also became evident that most of the "family" groups enjoyed presenting a lesson together that they had created. The culminating group video for the Fall 1997 semester was to select the group's best individualized e-mail assignment on one of the artists/writers/composers of the 19th century and to collaboratively create a group presentation from that individual's independent research. Each group was responsible for one visual to use along with their lesson, and every member of each group was responsible for a specific segment of the video presentation. As advocated by Gardner (1993), video recordings across time may be used to document the development of student abilities--even video portfolios for student work where successive theme-related projects are saved for each student. As evidenced by the researcher herein, the final video project was a powerful assessment tool, too.

### Notetaking

As previously stated, the purpose of notetaking by a teacher researcher who focuses on student ability is to document what students actually do when they are working and what they say about their learning and their interactions in the classroom (Wansart, 1995). The researcher herein supplemented the daily notetaking observations on each reading strategy from the C\*A\*C\*T\*U\*S model during the semester with a chart adapted from Leach, Evans, and Whetstone (1992). The chart was divided into four categories that compose the construct of self-efficacy: personal characteristics, interpersonal styles, career factors, and motivational attributes (Appendix Q). As each of the reading strategies was implemented, the researcher noted on the chart checkmarks for any of the categories noted as well as brief narrative notes on each of the members of the ten student subgroup. The checkmarks were partially based on descriptive qualifiers of the components of the construct of self-efficacy (Krug, 1985; Leach, Evans, & Whetstone, 1992) as indicated below:

- (a) Extroverted - outgoing, sociable, enjoy prolonged interaction with other.
- (b) Adjusted - stable, calm, secure, perform well under stress
- (c) Disciplined - controlled, careful, self-disciplined, organized, respectful
- (d) Creative - imaginative, sensitive, liberal, uncomfortable when restricted

- (e) Adapting - dependent on groups, silent, undemonstrative
- (f) Withdrawn - submissive, fearful, introverted, undemanding, insecure
- (g) Nonconforming - not sensitive to rules, critical, risk takers, blunt, domineering
- (h) Assertive - forceful, companionable, self-confident, industrious, approachable, dominant
- (i) Practical - down-to-earth, confident, self-sufficient, oriented toward immediate problems
- (j) Scientific - dominant, willing to take chances, flexible, high deductive skills, very investigative
- (k) Aesthetic - high combination of artistry, sensitivity, and intellectual ability
- (l) Sociable - comfortable in roles that involve interaction and service to others
- (m) Structured - followers, conventional attitudes, conservative, precise in approaching problems
- (n) Accomplished - strongly goal-oriented, very involved, will put in extra time
- (o) Power - ambitious, competitive, strive for leadership positions
- (p) Recognized - prefer to work as team members, very sensitive to needs of others, place great emphasis on quality of relationships with others.

Thus, these qualifier descriptors on the checklist chart as well as numerous narrative notes on the ten student subgroup members were used by the researcher while observing the actual implementation and related group activities created for the following twelve reading strategies in the C\*A\*C\*T\*U\*S model:

- (#1) BDA (Brain Dominance Attributes)
- (#2) IWET (Inferencing With Expository Text)
- (#3) VATK MODALITIES (Visual, Auditory, Tactile, Kinesthetic Modalities)
- (#4) SQ3R (Survey, Question, Read, Recite, Review)
- (#5) TNT (Terms In Traids)
- (#6) TFVs (True-False Verifications)
- (#7) RDP (Reading Difficult Passages)
- (#8) WORDO (Vocabulary Via Bingo)

- (#9) MNTs (Marginal Note Triangles)
- (#10) TIMELINE (Comprehension for Dates)
- (#11) ABC D&D (Alphabetized Concepts Via Define/Divide Cards)
- (#12) IQPU (One Question Per Unit)

The following narrative excerpts from the researcher-kept journal indicate some of the many observations made during the semester as different strategies composing the C\*A\*C\*T\*U\*S model were utilized as group activities in class (Appendix Q). Also, from the checklist chart kept on each strategy by the researcher are notations about the most positive and least positive outcomes observed. Notations are also made about the most prevalent descriptive qualifiers from the checklist chart, too.

#### Strategy #1 - Brain Dominance Attributes

##### Narrative Notes:

- Alfred: Seemed totally confused--had no idea how left/right brain processing connected to real life.
- John Paul: Very scared to speak up. He seemed totally dazed during the entire hour. (Clockwatcher)
- Tim: Scared to speak out but very opinionated. Was very interested in types of study partners to select in college.

##### Most Positive Outcome Observed:

Appreciation of individual likes/dislikes connected with ways to study and types of classes to schedule in the future.



Least Positive Outcome Observed:

Inability to apply to personal study habits in many cases.

Most Prevalent Descriptive Qualifiers While Observing:

Enterprising (8) and Recognition (8).

Strategy #2 - Inferencing With Expository Text

Narrative Notes:

Janna: Excellent with 5 of the 10 kinds of inferences taught. Very good in leading her group this afternoon.

Nicole: She is not sure of herself, but she really tried to help her group today-- especially when Amy was really confused on location and object inferencing.

Kristi: Worked really well with her group today. Did not get cause-effect inferences at all.

Most Positive Outcome Observed:

Excited about realization that so many different types of inferencing exist so that more can be comprehended from difficult text.

Least Positive Outcome Observed:

Not really able to make viable connection between drawing the inference and coming to a valid conclusion.

Most Prevalent Descriptive Qualifiers While Observing:

Independent (8) and Accomplishment (8).

Strategy #3 - Visual/Auditory/Tactile/Kinesthetic  
Modalities

Narrative Notes:

- Alfred: Very vocal about differences in auditory/visual modalities in his approach to learning. Seemed to want to boss others around this afternoon when working on their group activity.
- Janna: Asked her group lots of questions about their different preferences in high school--she tied as a visual/auditory learner. She disagreed with James a lot this afternoon but was never negatively vocal to anyone.
- Ashley: Seemed enthusiastic about learning while jogging with headphones (she is very kinesthetic). She is very much into running--a dancer. She just make the SLU Lionettes Dance Team and loved this activity.

Most Positive Outcome Observed:

Amazement that the preferred modality also means different study habits for different learners.

Least Positive Outcome Observed:

Not all students read the inventory questions carefully and came up with tied modalities.

Most Prevalent Descriptive Qualifiers While Observing:

Disciplined (7) and Structured (7) and Recognition (7).

Strategy #4 - Survey, Question, Read, Recite, Review  
(SQ3R)

Narrative Notes:

Kristi: Not so withdrawn or submissive this morning. Excellent comprehension on the third part of the chapter while we turned subheadings into questions. She was very interactive with Lola and Denice and helped them a lot today.

Alfred: He complained about how much work it took to map the chapter. He seemed much more adapting when we did the traditional outline format. He ended up assisting Dionne in writing excellent questions on the subheadings for the second part of the History 101 chapter.

Janna: Seemed to prefer the outline format but wasn't too verbal today. She appeared to let Candace and Joni do more of the work on the group activity than she did. She wasn't involved with our class today because she is having so much trouble with her Sociology 101 instructor. She told me about her frustrations and that she was failing the class, and she asked for study method suggestions. She doesn't appear to have much self-confidence at all.

Most Positive Outcome Observed:

Very much into turning the subheadings into study questions for the traditional outline format of History 101 chapter.

Least Positive Outcome Observed:

Students did not see real merit in using SQ3R with the mapping format of the chapter because of the additional work that encompasses.

Most Prevalent Descriptive Qualifiers While Observing:

Independent (7) and Practical (7) and  
Accomplished (7).

Strategy #5 - Terms in Triads

Narrative Notes:

Janra: She really took over the group today and was totally assertive. Very good at organizing and dividing up the concepts for the cards.

Tim: Worked with much discipline and was very fast today--not shy and withdrawn as usual. He wouldn't be the group leader at first, but gradually he assigned the different tasks. He helped Brian a lot today with the card on upward mobility.

Nicole: She was actually on time for class today. She didn't have any problem working with LaTanya and Amy this morning, but she wouldn't take much initiative. She seemed to rely on them too much. The term that caused her trouble was national redistribution of wealth.

Most Positive Outcome Observed:

Readily learned to chunk definitions in three word units for easier comprehension.

Least Positive Outcome Observed:

Students wasted a great deal of time trying to locate the assigned concepts for the notecards.

Most Prevalent Descriptive Qualifiers While Observing:

Sociable (8) and Structured (8).

## Strategy #6 - True/False Verifications

### Narrative Notes:

- Kristi: Very, very withdrawn today. Would simply not interact at all. She did not attempt to locate the concept in the TFVs even though Lola tried to assist her.
- John Paul: Very frustrated with the long statements I assigned to their group. He seemed to be totally submissive and let Corey take over the group this morning. He did assist Angie one time when she was trying to locate a section on Karl Marx.
- Marcus: Great leadership in his group this afternoon. LaShonda and Wanda did not want to work at all, but Marcus set them straight immediately about finding the concept and looking for negative word determiners.

### Most Positive Outcome Observed:

Realization that the number one priority in a TFV is to locate the noun concept in the question and in the text.

### Least Positive Outcome Observed:

Inability to realize that rewording or rephrasing does not necessarily mean invalidity in a long, narrative college-text question.

### Most Prevalent Descriptive Qualifiers While Observing:

Practical (8) and Accomplished (8).

## Strategy #7 - Reading Difficult Passages

### Narrative Notes:

- John Paul: Very communicative and assertive this afternoon. He was having trouble with Daniel not giving their group any

answers, and he cautioned Daniel to quit hitchhiking. His scolding worked.

Kristi: Much more enthusiastic. Not shy or timid today. Spoke out when no one in her group had any background knowledge on corporate taxes, too.

Marcus: Highly enthusiastic this afternoon. Marcus seemed to take over when the group made their large mnemonigraph poster for their three positive concepts involving Benazair Bhutto and Pakistan.

Most Positive Outcome Observed:

Immediate grasp of major positive concepts in college text indicated some background knowledge.

Least Positive Outcome Observed:

Reliance on group leaders to tell other group members the major concepts without students individually attempting to locate concepts.

Most Prevalent Descriptive Qualifiers While Observing:

Caring (9) and Sociable (9) and Structured (9) and Accomplished (9).

Strategy #8 - WORDO (Vocabulary Via Bingo)

Narrative Notes:

Ashley: Loved this strategy, but she is kinesthetic. She knew a lot of the definitions without having to consult the group. I heard her ask for assistance on "contingent" and "adherence".

Tim: Left brain/kinesthetic athlete so he loved this strategy. He didn't know structures, but he did know most of the definitions. He asked Kevin the definition of "prevalent".

Marlice: Didn't fuss at all about strategy and verbally express how she liked the approach. She asked very good questions about adapting it for a Sociology 101 class.

Most Positive Outcome Observed:

Genuine enthusiasm about vocabulary review because of gamelike approach.

Least Positive Outcome Observed:

Some students completely relied on others to supply their definitions, structures, and methods on the back of the gamesheet.

Most Prevalent Descriptive Qualifiers While Observing:

Caring (10) and Sociable (10) and Accomplished (10)

Strategy #9 - Marginal Note Triangles

Narrative Notes:

Janna: She got behind as we walked through the first MNT together, but she soon caught up. She also asked very good questions about placement of the vocabulary ladders, too. Janna seems to have some background knowledge about these Music 151 terms, and she was very helpful to Elysia today on the concept of "overture".

Ashley: Remembered how to map a chapter really well. Strategy was a bit difficult for her today, but she tried eagerly to grasp the visual importance of locating the triangles under the correct major headings.

Kristi: Highly vocal and interactive with Denice this morning. Seemed to like strategy because she is so visual.

Most Positive Outcome Observed:

Perception that visual placement of triangles on map will aid overall comprehension of chapter text--as well as timesaver when studying.

Least Positive Outcome Observed:

Frustration from deciding proper place to visually draw the vocabulary ladders on the chapter map.

Most Prevalent Descriptive Qualifiers While Observing:

Structured (9).

Strategy #10 - Timeline (Comprehension for Dates)

Narrative Notes:

Alfred: Did not immediately see relevance in using a timeline for a Music 151 chapter--very vocal and pretty much complained to everyone in his group about having to search out certain events that had occurred to complete the timeline. He took a while to realize the acronym coined, FAT MRT, made absolutely no sense unless the events were learned with the dates.

Marcus: He was very enterprising in getting his group started on finding specific dates for the assignment. He did not let Dinar slide by and not help the group by accusing Dinar of not helping out on the last two group activities.

Most Positive Outcome Observed:

Using an acronym for six specific dates increases recall as well as comprehension in a precedes-follows study strategy.

Least Positive Outcome Observed:

Not enough time spent on reading about events--lots of students simply listed event without



discovering from text what preceded or followed the event to make it important.

Most Prevalent Descriptive Qualifiers While Observing:

Adapting (9) and Assertive (9) and Interactive (9).

Strategy #11 - ABC D&D Cards (Alphabetized Concepts for Define/Divide Cards)

Narrative Notes:

- Kristi: She seemed to catch on really fast today. Very assertive in the definitions that she chunked for her group.
- Alfred: Didn't seem to whine so much today. Very good about coming up with chapter concepts to define and chunk by 3's. Alfred seemed to have a problem chunking a definition for "art song".
- Tim: Great leadership this morning. He really had to fuss at both Brian and Rob for trying to get out of their assigned tasks on the 26 alphabetized chapter concepts.

Most Positive Outcome Observed:

Great group cooperation in coming up with Master List of 26 alphabetized chapter concepts.

Least Positive Outcome Observed:

Inability to chunk definitions on longer terms and artists cited in the Major List of 26 alphabetized concepts.

Most Prevalent Descriptive Qualifiers While Observing:

Sociable (10).

## Strategy #12 - One Question Per Unit

### Narrative Notes:

Marcus: Well adapted and interactive this afternoon. He had trouble with LaShonda and Wanda being non-participants again, but Marcus handled the problem really well. He is getting very tired of Wanda "sluffing off".

John Paul: Good attitude and very interactive this morning. Seemed to feel there is little merit in strategy; however, John Paul said that one question for so much material seemed to be insufficient. He was especially helpful to Angie and Corey today.

### Most Positive Outcome Observed:

Key concepts were easily pulled out to form group study questions from units assigned.

### Least Positive Outcome Observed:

Questions written by student groups were pretty much all formed at recall level--few higher level thinking questions resulted.

### Most Prevalent Descriptive Qualifiers While Observing:

Caring (10) and Sociable (01) and Accomplished (10).

Finally, when looking at all of the descriptive qualifiers that compose the construct of self-efficacy that were observed during the implementation of the preceding twelve strategies, it was noted that the "structured" qualifier occurred most frequently (6.60%) and the qualifier "uncaring" occurred least frequently (0.58%). Table 6 also shows that the most frequently observed

qualifiers in each of the four components of self-efficacy were as follows: Personal Characteristics qualifier--Independent (5.37%); Interpersonal Style qualifier--Sociable (6.53%); Career Factors qualifier--Structured (6.60%); and Motivational Attributes--Accomplishment (6.39%). A total of 1,378 qualifiers were observed on the ten subgroup students during the implementation of the twelve reading strategies as described above. It was also noted that the three qualifiers that appeared less frequently during the semester-long observations were as follows: "submissive" (1.60%); "withdrawn" (1.30%); and "uncaring" (0.58%).

Table 6

Descriptive Qualifiers for Four Components of the Construct of Self-Efficacy Observed During Semester Implementation of Reading Strategies in C\*A\*C\*T\*U\*S

Descriptive Qualifiers	f	%
Structured	91	6.60
Sociable	90	6.53
Accomplishment	88	6.39
Caring	80	5.81
Independent	74	5.37
Power	73	5.30
Assertive	73	5.30
Competitive	70	5.08

(table con'd.)

Descriptive Qualifiers	f	$\bar{x}$
Adjusted	68	4.92
Practical	66	4.79
Recognition	64	4.64
Interactive	63	4.57
Extroverted	57	4.14
Adapting	57	4.14
Disciplined	54	3.92
Enterprising	53	3.85
Tough-Minded	53	3.85
Scientific	42	3.05
Aesthetic	42	3.05
Nonconforming	41	2.97
Creative	31	2.25
Submissive	22	1.60
Withdrawn	18	1.30
Uncaring	8	0.58
Total	1,378	100.00

### Actual Student Artifacts

As previously stated, the purpose of keeping actual student artifacts by a teacher-researcher is to document available evidence of what students are or were doing and the changes that may take place in their work (Wansart, 1995). The researcher herein utilized various written assignments and mnemonigraph cards from the ten subgroup students to document some of the students' frustrations

with other group members as well as their likes and dislikes of the C\*A\*C\*T\*U\*S model that were implemented during the semester. The following entries are recorded verbatim, as written by the ten students using both their spelling and syntax.

In response to a written assignment that asked the students their personal feelings about specific strategies in the C\*A\*C\*T\*U\*S model, the following responses were given to the questions, "Tell me the number of the best reading strategy this semester and why it's good."

Marcus: "Number #8 (WORDO) because it's a good reading strategy and it makes learning vocabulary fun."

Ashley: "Number #1 (Brain Dominance Attributes) and Number #3 (Visual/Auditory/Tactile/Kinesthetic Modalities) were good because it was interesting to find out what kind of learner I was."

Marlice: "Number #9 (Marginal Note Triangles) because it's more interesting to take a chapter apart like this and learning is easier."

Wayne: "Number #11 (ABC Define/Divide Cards for Alphabetized Concepts) because it's easier to learn definitions, events, or dates by chunking three words when you have a lot to learn in a college chapter."

Nicole: "Number 3 (Visual/Auditory/Tactile/Kinesthetic Modalities) because it made me aware of how I need to learn."

Tim: "Number 12 (One Question Per Unit) because it makes studying the chapter easier by dividing it by units."

In response to a written assignment that asked the question, "Tell me the number of the worst reading strategy this semester and why you think it's bad," the following responses were given:

Janna: "Number #5 (Terms in Triads) because I might select a term or definition that isn't going to be on the test."

Nicole: "Number #2 (Inferencing With Expository Text) because there are ten different types of inferences to remember when studying. I don't think I could remember to do this every time I study."

Wayne: "Number #9 (Marginal Note Triangles) because writing concepts in a triangle does not help me."

Marlice: "I don't think any are bad because they all helped in a positive manner."

Marcus: "Number #12 (One Question Per Unit) because it doesn't give or supply a lot of information."

John Paul: "Number #12 (One Question Per Unit) because all it covers is one question--you can't expect to know all the information with only one question from a long, hard paragraph."

Ashley: "I feel they all helped me in some way, so I really don't know which one is the worst."

In response to an assignment that utilized particular vocabulary words for voicing negative opinions, the following responses were given in student constructed sentences for their weekly assigned mnemonigraph cards:

John Paul: "Daniel was a hindrance to our group today when we tried to map the music chapter."

Marcus: "I felt that Wanda had no idea about bolstering our progress on the video assignment; she is a hitchhiker."

Ashley: "If Alfred had any tolerance, he wouldn't be so obnoxious to our family."

Kristi: "Lots of times Jessica tries to give the rest of us irrelevant answers."

Nicole: "There are superficial people in my family that won't try to think."

Marlice: "Sometimes I think Brandon and Reuben think egalitarianism doesn't work on our group projects."

Alfred: "I think Dionne is too prejudiced to be in our group."

Tim: "If Rob weren't always late for our 7 o'clock class everyday, we wouldn't have to always turn in superficial group questions."

### Summary

In this chapter, the findings of the study were both discussed and delineated. The methods for analyzing the quantitative findings through the descriptive statistics have been described. Descriptive qualitative analyses of teacher-researcher documentation methods for notetaking, tape recordings, video recordings, interviews, and student artifacts were also presented. In addition, detailed descriptions of presemester and postsemester interviews with the ten subgroup students were presented. The teacher-researcher reported observational notetaking on

twelve of the reading strategies comprising the C\*A\*C\*T\*U\*S model not only indicated the most positive and least positive outcomes for each strategy, but it also included notation on the most prevalent descriptive qualifiers for the components of the construct of self-efficacy for the ten students carefully observed.

In Chapter Three there were several delimitations of this particular study noted. The qualitative process of both organizing and presenting the findings in Chapter Four precipitated the clarification of an additional limitation, the position of the teacher-researcher in the dual roles of the instructor engaging her students in the implementation of C\*A\*C\*T\*U\*S, in the journals, in the interviews, and in the group activities--while at the same time attempting to report all findings with precise objectivity. Finally, the analyses and interpretations offered in Chapter Five led to an enumeration of practical recommendations and suggestions for future collaborative/cooperative learning at the postsecondary level because of the findings mentioned in this chapter.



## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

The purpose of this study was to utilize a researcher-designed instructional model of reading built around three types of learning (cooperative, active, and critical thinking) for the at-risk developmental college level reader for an entire semester. The C\*A\*C\*T\*U\*S model was also specifically utilized for observational purposes by the researcher throughout the semester. As different strategies in the model were implemented, the researcher used various forms of documentation to determine whether there were any emerging themes of learning, individualized personal identification concepts, or changes in the self-efficacy construct for a selected ten student member subgroup. Also, an experimental and a control group of students' Nelson Denny pretest and posttest scores were compared using the scores of students who were instructed via the previously described model (experimental group) with students taught via traditional methods (control group) to determine any significant differences in reading scores after a fourteen-week semester.

Throughout the study, there were four different objectives that were involved in the overall research design.

The first objective was to design an instructional reading model based on cooperative learning, active learning, and critical thinking unified strategies that specifically addressed techniques for improving both vocabulary and comprehension for the at-risk college level developmental reader. As a result of this objective, the C\*A\*C\*T\*U\*S model evolved.

The second objective was to compare an experimental group of at-risk readers instructed via the C\*A\*C\*T\*U\*S model with those students in a control group of at-risk readers instructed via traditional methods on reading ability as measured by the Nelson Denny Reading Posttest Form H.

The third objective was to determine whether or not there were any detectable changes in the self-efficacy concepts of a group of students of at-risk postsecondary readers following a fourteen-week implementation of C\*A\*C\*T\*U\*S, a researcher-designed collaborative/cooperative instructional reading model.

The fourth objective was to identify any and all emerging themes of learning and/or personal identification concepts that were evident in a group of at-risk postsecondary readers instructed via the C\*A\*C\*T\*U\*S model for one semester.

It has been estimated that 30% of students entering U.S. colleges require remediation and 30% to 40% of first-year college students have deficiencies in the reading and writing skills necessary for college performance; such a trend poses disturbing implications and frustrations for the first-year college student that must be addressed. To assist the developmental postsecondary at-risk reader in successfully addressing some of these deficiencies, four specific aspects of the reading process reviewed by previous researchers were thoroughly investigated: inferencing abilities, activating schema, utilization of collaborative/cooperative strategies, and metacomprehension. Furthermore, research conducted at the college level investigating implementation of strategies that employ cooperative/active learning and critical thinking that have proven useful when instructing the postsecondary at-risk reader was also documented in the present study. In the literature review concerning postsecondary reading, various researchers pointed out that to date, there are few, if any, research design models that provide long-term goal oriented learning into the curricula for academically underprepared students.

An instructional reading model built around inferencing, activating schema, collaboration, and

metacomprehension through unified strategies employing active learning, cooperative learning, and critical thinking resulted as a response to the literature directed toward the ever-growing population of college level developmental readers. Additionally, much of the literature revealed that the developmental student enters the college classroom with a very unclear understanding of the demands of an academic course of study, little confidence in himself as a reader, and feelings of inferior self-efficacy attributes. Literature reviewed stated that in terms of feeling, a low sense of self-efficacy is associated with depression, anxiety, and helplessness. Such individuals also have low self-esteem and harbor pessimistic thoughts about their accomplishments and personal development. In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including quality of decision-making and academic achievement. Since this population of students may find their best support among themselves, student to student, it would appear that a classroom built around collaboration would be the natural place for peer support to begin. Previously identified studies revealed that at-risk readers need daily support and constant feedback from others to overcome many of their

deficiencies. Methodology based on empowerment action-oriented techniques together with an instructional reading model based on group interaction and collaboration resulted.

The methodology of this study included usage of both the Nelson Denny Pretest Form G and the Nelson Denny Posttest Form H, a researcher-designed instructional model of reading based on C\*A\*C\*T\*U\*S, observational checksheets used in connection with the construct of self-efficacy, the Generalized Self-Efficacy Scale, student produced artifacts, journals, video/taped recordings, and presemester and postsemester interviews. There were 123 students in the experimental group (taught via the C\*A\*C\*T\*U\*S method), and there were 109 students in the control group (taught via traditional methods). There was a ten student member subgroup drawn from the experimental group. These were the ten students who were observed daily by the researcher and who provided the documentation for the other observatory methods mentioned above. All of the students in both the experimental and the control group were classified as developmental students and were enrolled in a content area reading class described as DVRE090, Developmental Reading 090, at Southeastern Louisiana

University in Hammond, Louisiana for the fall 1997 semester.

Instructors of developmental education courses have long been aware of the important part that collaborative learning can play in the success of at-risk students. The empirical foundations of research on collaborative/cooperative learning led to the design and the methodology of the present investigation. The 123 students in the experimental group worked in cooperative groups, wrote in dialogue journals, participated in taped and video recorded assignments, sent individual e-mail research documents, created numerous group teaching lessons, collaborated on 20 vocabulary checks utilizing twenty different methods of analogies, worked individually and as groups on six different chapter quizzes, and were instructed on twelve specific reading strategies -- all of which were incorporated into the C\*A\*C\*T\*U\*S model of instruction. The journals and interviews with the ten student member subgroup were analyzed in depth to look closely at the interactions that took place over time, and the researcher-designed checksheet on the descriptive qualifiers for the self-efficacy construct was utilized to see which descriptors appeared most frequently while engaging in twelve collaborative reading strategies.

The following is a summary of the findings arranged by objectives of this study:

The first objective of the study involved the design of the instructional model based on active learning, cooperative learning, and critical thinking unified strategies. The resulting C\*A\*C\*T\*U\*S program addressed techniques for improving both vocabulary and comprehension for postsecondary at-risk readers.

The second objective of the study was to compare an experimental group of at-risk readers instructed via the C\*A\*C\*T\*U\*S model with those students in a control group of at-risk readers instructed via traditional methods on reading ability. The  $t$ -test results of the Nelson Denny Posttest were  $t(210.5)=3.68$  indicating that there was a significant difference at the .05 level between the two groups. This gives support to the positive implementation effects of the C\*A\*C\*T\*U\*S model. Also, a paired  $t$ -test was run on the ten student member subgroup's scores on the Nelson Denny Pretest and Nelson Denny Posttest, and the  $t$ -test for differences between means showed a  $-6.40$  which is also significant at the .05 level. Furthermore, comparing the pass/fail rates of students in both the experimental and control groups in the DVRE090 class at the end of the fall 1997 semester, it was revealed that in the

experimental group a total of 81.3% received a P (passing) grade, 12.0% received a U (unsatisfactory) grade, and 6.7% noted a W (withdrawal). In the control group a total of 62.4% received a P (passing) grade, 29.5% received a U (unsatisfactory) grade, and 8.1% noted a W (withdrawal).

The third objective of the study was to determine any detectable changes in the self-efficacy concepts of a group of students of at-risk postsecondary readers following a fourteen-week implementation of C\*A\*C\*T\*U\*S. Carefully looking at the twenty-four descriptive qualifiers (previously described) that were observed for twelve specific reading strategies taken from the C\*A\*C\*T\*U\*S model and actually implemented in the developmental reading classroom for an entire semester, it was noted that the four qualifiers that appeared most frequently as the semester progressed included the descriptors designated as independent (5.37%), sociable (6.53%), structured (6.60%), and accomplishment (6.39%). It was also noted that the three qualifiers that appeared least frequently, particularly toward the latter part of the semester, were the descriptors designated as submissive (1.60%), withdrawn (1.30%), and uncaring (0.58%).

The fourth objective of the study was to identify any and all emerging themes of learning and/or personal



identification concepts evident in a group of students drawn from an experimental group of at-risk postsecondary readers instructed via the C\*A\*C\*T\*U\*S model for one semester. Reviewing the myriad of instruments and materials used for documentation for this objective, the following themes or learning and identification concepts were noted: confidence in expressing opinions on controversial topics, enhanced personal learning ability, decreased fear of technological assignments on either the Internet or E-mail increased self-confidence as lifelong learners, appreciation of recreational reading, individualized leadership qualities competencies for college degree attainment, positive feelings regarding a creatively contagious learning environment, camaraderie/trust among group members, bonded friendships outside the classroom, reliance on participatory group endeavors, better organizational skills, deletion of nonparticipatory behavior in group projects, structured/social peer instructors, appropriate study behavior itinerary, decreased competitive rivalry, willingness to disperse gathered research, extroverted group interdependence, engaged consumers of publicized current events, and verbally profuse communicators through computer usage.

### Conclusions and Recommendations

The following conclusions and recommendations were formulated based on the findings of the present investigation:

Objective one of the present study was to design an instructional reading model based on cooperative learning, active learning, and critical thinking unified strategies. As pointed out by Pavese (1993), there have been very few instructional reading models created for the postsecondary at-risk student when compared with elementary and junior high populations. It was concluded that a model of instruction like C\*A\*C\*T\*U\*S (strongly based around teaching inferencing, activating schema, cooperative/active learning, critical thinking, and metacomprehension) can be a viable teaching tool at the college level for postsecondary readers who are underprepared for the difficult reading assignments that they will encounter. Although the posttest results of the Nelson Denny Reading Test were indicative of such success, verbal and written comments from the ten students in the subgroup substantiated the fact that at-risk readers need to learn reading strategies that they can internalize and recall for future use.

Objective two of the present study was to compare an experimental group of at-risk readers instructed via the C\*A\*C\*T\*U\*S model with those students in a control group of at-risk readers instructed via traditional methods on reading ability as measured by the Nelson Denny Reading Test Form H. It was concluded that implementing a collaborative/cooperative instructional model of instruction in an at-risk postsecondary classroom effectively increases students' reading abilities and confirms the predicted outcomes of increased student motivation, participation/involvement, and critical thinking skills (Alvermann, Moore, & Conley, 1987). Although the posttest scores of the students involved in the C\*A\*C\*T\*U\*S program were higher than the posttest scores of the students taught traditionally in a reading classroom, further research is recommended to determine whether or not such a instructional model could be found effective when teaching other types of college level classes, too. At a time when critical thinking skills are so conscientiously looked at by educators and businessmen alike, research at the college level for this type of instruction does not have to be limited to areas of study that center around content area reading. College classes that focus on mathematics and science could implement a

similar model, and the results could be viewed regarding posttest scores and pass/fail rates on a semester basis or a two-year plan for freshmen/sophomore classes.

Objective three of the present investigation was to determine any changes in the self-efficacy concepts of a group of students of at-risk postsecondary readers following a fourteen week implementation of C\*A\*C\*T\*U\*S. It was concluded that when utilizing a collaborative/cooperative instructional model when teaching developmental at-risk readers that the students involved gain a more positive attitude toward their own self-efficacy (a belief in one's capability to mobilize his motivation, cognitive resources, and courses of action needed to meet situational demands) as the semester progresses. Research has consistently suggested that repeated successes at a task raise self-efficacy expectations (Gist, Stevens, & Babetta, 1991), while repeated failures lower them (Hackett, Betz, O'Halloran, & Romac, 1990). This was consistent with the investigator's observations throughout the present study and further confirms Bandura's (1978) theory that individuals avoid tasks perceived as exceeding their capabilities, and they undertake and perform successfully tasks they are capable of handling. As the investigator repeatedly observed these at-risk students successfully

completing the more complex strategies involved in the C\*A\*C\*T\*U\*S model as the semester progressed, it was also evident that these same at-risk readers stopped avoiding many of the reading strategies that they initially encountered when C\*A\*C\*T\*U\*S commenced. Further research is recommended to extend such a model of instruction into similar fields that are vitally interested in the self-efficacy construct; for example, many researchers in the health field are investigating different ways to help students involved in alcohol-substance abuse programs. A similar model of instruction that promotes Bandura's theory could prove very useful in such areas.

The fourth objective of the present study was to identify emerging themes of learning and/or personal identification concepts that were observed in a group of students drawn from an experimental group of at-risk postsecondary readers instructed via the C\*A\*C\*T\*U\*S model for one semester. It was concluded that when utilizing such a model for at-risk readers that over twenty different emerging themes of learning and personal identification concepts resulted and confirmed what Horn (1997) predicted would happen when students realized that peer support at the college developmental level is a necessity for survival. Once the at-risk student realizes that other

students are sources of assistance and assurance for him both inside and outside of the college classroom, the whole picture of individualized feelings about learning and self-concepts regarding success at this level change. Further research is recommended to determine whether or not implementation of a similar model of instruction in the vocational/technical college classroom would produce similar results. At a time when two-year associate degrees are being made more readily available to larger, nontraditional populations, there are also many underprepared and older students who could profit from reentering a college classroom that promotes a "community" collaborative/cooperative feeling. Although many individualized emerging themes of learning and personal identification concepts are predicted to occur when a model like C\*A\*C\*T\*U\*S is utilized in the college setting, it would also prove very helpful to thousands of older adults who are hesitant about returning to a college campus. Perhaps if these older, nontraditional students were given the option of attending a two-year program that fostered hands-on, collaborative learning as opposed to the traditional note-taking lecture format, some of the anxiety could be reduced and their learning could occur within a more nonhostile environment.

Final Statement

Collaborative/cooperative learning incorporated into a semester-long strategy-filled model of reading can actually enable underprepared at-risk college level readers to modify and positively change their academic reading/study habits and their personal attitudes regarding their own self-efficacy as indicated in this investigation. Although implementation of such a model at the college level brings with it a myriad of controversial problems, the benefits accrued from such instruction are notably numerous in both the attitudes and persistence of the students involved in such a contagiously creative atmosphere of cooperative, active, and critical thinking learning. For college instructors who face the imminent challenge of assisting at-risk readers, collaborative/cooperative learning is the innovative means of expedience.

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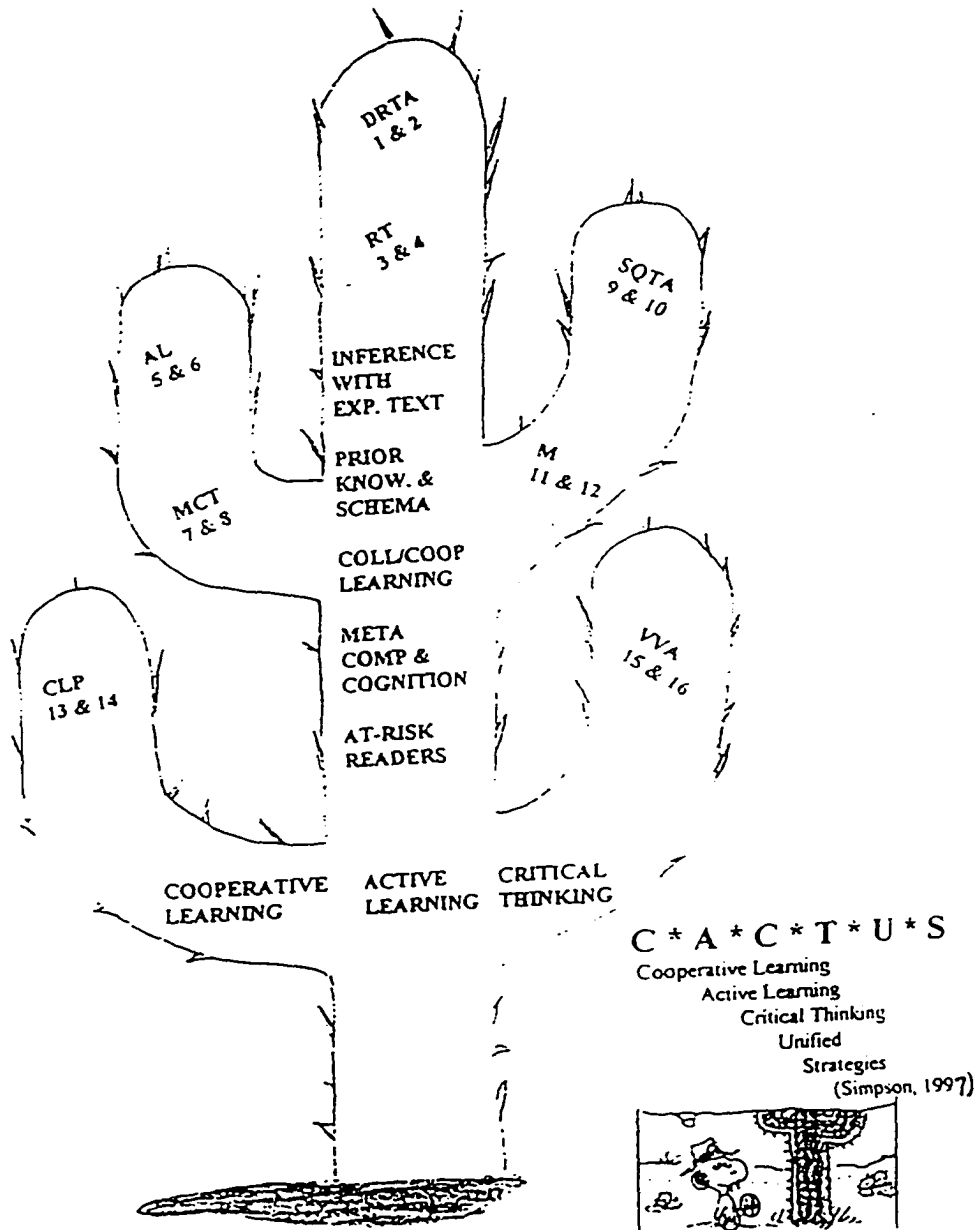
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# APPENDIX A

## VISUAL OF RESEARCHER-DESIGNED INSTRUCTIONAL READING MODEL (C\*A\*C\*T\*U\*S)

- |        |                |                   |         |                   |
|--------|----------------|-------------------|---------|-------------------|
| 1-TWET | 4-Curveballs   | 7-Mind-Maps       | 10-IQPU | 13-Terms N Triads |
| 2-TFV  | 5-WORDO        | 8-SQ3R            | 11-BDA  | 14-MINT           |
| 3-RDP  | 6-JigsawJargon | 9-Prior Knowledge | 12-VATK | 15-Timeline       |
|        |                |                   |         | 16-BumperStickers |



## APPENDIX B

### COPY OF AFFIDAVIT FROM STUDENT WORKER REGARDING THE SELECTION OF THE ORIGINAL 25 STUDENTS DRAWN FROM THE INITIAL EXPERIMENTAL GROUP

#### STATEMENT REGARDING THE RANDOM DRAWING OF 25 STUDENTS FROM THE ENTIRE EXPERIMENTAL GROUP (150) FOR DVRE090 AT SLU - FALL 1997

I, Ellen Schilling, do hereby state on this 26th day of August, 1997, that I

am the student worker who randomly drew twenty-five (25) students names for the computer-selected sections of DVRE090 for Fall 1997 at Southeastern Louisiana State University; specifically, I drew the names from the intact computer listed rolls for Developmental Reading 090 for Sections 01, 03, 06, 09, and 12. I serve as the student worker for the researcher herein; however, I had no prior knowledge regarding any of the twenty-five students' ACT Reading Scores, their Nelson Denny Reading Form G Scores, or their overall ACT Composite scores

at the time of the random drawing. To retain anonymity, I am listing below the 25 students' names using their first initial only, their race, sex, marital status, and Pretest Nelson Denny score:

Name	Age	Sex	Race	Marital Status	Pretest
A-1	18	F	B	Single	5.3
A-2	18	F	W	Single	9.5
A-3	25	M	W	Single	10.9
B-1	17	F	W	Single	9.7
B-2	17	F	W	Single	8.7
C	17	M	B	Single	9.1
D-1	18	F	B	Single	6.6
D-2	17	F	B	Single	8.1
J-1	17	M	W	Single	10.9
J-2	17	F	W	Single	6.8
J-3	18	M	W	Single	7.5
J-4	19	F	B	Single	8.2
J-5	18	M	W	Single	10.4
J-6	18	F	W	Single	9.7
J-7	18	F	W	Single	8.9
K	17	F	B	Single	9.7
M-1	17	F	B	Single	8.7
M-2	18	M	B	Single	10.9
M-3	18	M	W	Single	8.5
N	27	F	W	Single	9.1
Q	19	F	B	Single	9.1
R	19	M	B	Single	5.6
S	18	M	W	Single	9.7
T	22	M	W	Married	9.1
W	18	M	W	Single	8.2

Signed: Ellen Schilling Ellen L. Schilling 434-47-9410(SLU Student)

## APPENDIX C

### COPY OF DVRE090 COURSE SYLLABUS FOR ALL STUDENTS IN EXPERIMENTAL GROUP

#### DVRE090 SYLLABUS FALL 1997 SECTIONS 01, 03, 06, 10, 12

INSTRUCTOR: Ms. Phyllis L. Simpson  
112 North Complex A  
Phone: 549-3853  
Office Hours: Monday (1-2), Wednesday (1-2)  
MTWTH (9-10) and (11-12)

Peer's Name and Phone \_\_\_\_\_

Peer's Name and Phone \_\_\_\_\_

This course is required for all entering freshmen who score 17 or below on the ACT composite, 16 or below on the reading section of the ACT, and below 11.0 GE on the standardized reading placement test. This course is designed to strengthen your skills in vocabulary, comprehension, and study techniques through the use of collegiate content and recreational reading materials.

#### CLASS REQUIREMENTS:

- A. **ATTENDANCE IS MANDATORY! YOU ARE REQUIRED TO SIGN IN EACH DAY!!!** While we recognize that emergencies occur, you should be aware that a total of 3 or more excused or unexcused absences from class will probably lead to your failure to exit the course at the end of the semester. Be certain to call and leave a message on my voice mail should an emergency occur.
- B. **CLASSWORK AND HOMEWORK ASSIGNMENTS:**  
You will be provided with a GradeGuide printout every two weeks. You will make an appointment to see me if your average falls below 70%. Obviously, group assignments cannot be made up.
- C. **EXAMS:**  
In fairness to your classmates, if you miss an exam, your next exam will count twice. However, no test will count more than double. Hence, missing two exams of equal worth in a row means that you will receive a Q on one of the exams. You may use this option only once. You will have 12 vocabulary quizzes and 6 chapter quizzes.
- D. **HOMEWORK AND CLASSWORK QUALITY:**  
You are in college. The work that you turn in should have the same professional appearance that would be expected in a work environment!
1. Vocabulary Mnemonigraph Cards **MUST** follow the proper format
  2. Ragged edges on Annotations will not be accepted.
  3. All homework should be written in ink or typed. Computer work on annotations



is very acceptable.

4 Incorrect spelling can lead to miscommunication. Spell things correctly!

#### E. MATERIALS NEEDED:

1 copy of the text:

Longman, D.G., Atkinson, R. H., & Breeden, J.A. (1997). *Strategic Reading and Thinking*. Boston, Mass. Heinle & Heinle Publishers.

1 3-Ring Binder

200 Index Cards

15 Scantrons (Form B)

Loose Leaf Paper or Computer Paper for 28 sets of Annotations

Pencils/Pens

E-Mail Address (should have been secured during registration)

#### F. LITERARY LETTERS AND ALL E-MAIL ASSIGNMENTS:

You will do three (3) literary letters via E-mail on selected short stories during the semester. Each of the literary letters will be worth 75 points, and they must be received on the dates due. (I will show you an example in class!) Use the following instructions

Directions for logging into the VAX and reading/sending e-mail.

• • • Southeastern Louisiana University • • •

Authorized Personnel and Students Only

Username:

Password:

At Username: you will type your account number \_\_\_\_ Hit Enter

At Password: you will type the 4-digit password on your account \_\_\_\_ Hit Enter

You will see a prompt that looks like a dollar sign --\$ When you see this prompt, you will know you have successfully logged into the VAX. If you make an error while entering your username or password, you will have to start over.

To send a new message:

At the \$ prompt, type mail. At the EMAIL> prompt, type mail again. You will get a prompt that says To: This is where you enter the other person's e-mail address. Then, you will get a prompt that says Subject: You should enter a one-line description of your message here (like Literary Letter #1). Hit enter. Now type your message. When you are finished, hit CTRL Z to send the message.

To exit from E-mail:

Type ex and hit enter.

\*\*\*\*To logoff from the computer:

Type lo and hit enter. NEVER LEAVE THE LAB WITHOUT LOGGING OFF!!!

My e-mail address if you are writing me on campus

psimpson

My e-mail address from outside the SLU system (like America Online), this is my address

psimpson@slu.edu

In all your messages to me, be sure to sign off with your name and your section number!!!!  
**DO NOT GIVE YOUR PASSWORD TO ANYONE. PROTECT YOUR ACCOUNT!**

**G. GRADES:**

You will receive either a grade of P or U. A grade of P indicates that you have exited reading and may enter DVCT090. A grade of U indicates that you have failed the course and need to retake it. Grades are divided into the following 4 categories for my class:

25% = textbook quizzes

25% = homework, classwork, groupwork, literary letters

25% = voc quizzes & mnemonigraph cards, reading strategies,  
Journal entries

25% = book reports

As previously stated, you will receive a GradeGuide printout every two weeks of school, and you will make an appointment to see me anytime your GrandAverage falls below 70%. You cannot pass this class without passing the lab - so you must read at least 1400 pages of recreational reading to pass!!!! I will help you select an author that you really like.

## Assignment Sheet for Sections 01, 03, 06, 10, and 12 DVRE090, Fall 1997

Aug 25-28, 1997	TT#1 (p. 182-185) TT#2 (p. 186-192)
Sept. 1, 1997	Labor Day Holiday (you should have read 200 pages for lab)
Sept. 2-4, 1997	TT#3(p. 193-195) TT#4(p.196-200)
Sept. 3	Voc. Quiz #1 (#1-15) and Mnemonigraph Card Set #1 due
Sept. 8-11, 1997	TT#5(p 201-205) TT#6(p 206-210)
Sept. 10	Voc. Quiz #2(#1-30) and Mnemonigraph Card Set #2 due
Sept. 11	Chapter Quiz #1 (You should have read 200 more pages for lab - total of 400 now)
Sept. 15-18, 1997	TT#7 (p 212-213) TT#8(p. B2-B4)
Sept. 17	Voc. Quiz #3 (#1-42) and Mnemonigraph Card Set #3 due
Sept. 18	Literary E-Mail Letter #1 due
Sept. 22-25, 1997	TT#9(p. B-5-B7) TT#10(p.B8-B9)
Sept. 24	Voc. Quiz #4(#1-54) and Mnemonigraph Card Set #4 due
Sept. 25	Chapter Quiz #2 (You should read 200 more pages for lab - total of 600 now)
Sept. 29-Oct 2, 1997	TT#11(p B10-B12) TT#12(p 218-220)
Oct. 1	Voc. Quiz #5(#1-66) and Mnemonigraph Card Set #5 due
Oct. 6-9, 1997	TT#13(p 221-224) TT#14(p 225-227)
Oct. 8	Voc. Quiz #6(#1-78) and Mnemonigraph Card Set #6 due
Oct. 9	Chapter Quiz #3 (You should read 200 more pages for lab - total of 800 now)
Oct. 13-16, 1997	TT#15(p 230-232) TT#16(p 233-235)
Oct. 15	Voc. Quiz #7(#1-90) and Mnemonigraph Card Set #7 due
Oct. 16	Literary E-Mail Letter #2 due
Oct. 20-23, 1997	TT#17(p 236-237) TT#18(p 239-241) TT#19(p 242-244)
Oct. 22	Voc. Quiz #8(#1-102) and Mnemonigraph Card Set #8 due
Oct. 23	Chapter Quiz #4 (You should read 200 more pages for lab - total of 1000 now)
Oct. 27-30, 1997	TT#20(p 245-247) TT#21(p 249-252) TT#22(p C2-C3)
Oct. 29	Voc. Quiz #9(#1-114) and Mnemonigraph Card Set #9 due
Nov. 3-6, 1997	TT#23(p C4-C5) TT#24(p C6-C7) TT#25(p C8-C9)
Nov. 5	Voc. Quiz #10 (#1-126) and Mnemonigraph Card Set #10 due
Nov. 6	Chapter Quiz #5(You should read 200 more pages - 1200total)

Nov. 10-13, 1997 TT#26(p.C10-C11) TT#27(p.C12-C13) TT#28(p.C14-C15)  
 Nov. 12 Voc. Quiz #11(#1-138) and Mnemonigraph Card Set #11 due  
 Nov. 13 Literary E-Mail Letter #3 due  
  
 Nov. 17-18, 1997 Final Group Video Project  
 (You should read 200 more pages - 1400 total by now)  
 Nov. 19 Voc. Quiz #12(#1-150) and Mnemonigraph Card Set #12 due  
 Nov. 20 Chapter Quiz #6  
  
 Nov. 24, 1997 Absolutely Last Day to turn any work in to Ms. Simpson!!!!!!  
  
 Dec. 3, 1997 FINAL VOCABULARY TEST WITH ALL 20 METHODS/  
 AND ALL 150 WORDS  
  
 Dec. 4, 1997 EXIT TEST (You must take this test to enter DVCT090)

**Final Exam Schedule for Ms. Simpson:**

Section 01	Tuesday, Dec. 9, 1997	12:30-2:30
Section 03	Monday, Dec. 8, 1997	10:15-12:15
Section 06	Wednesday, Dec. 10, 1997	10:15-12:15
Section 10	Thursday, Dec. 11, 1997	10:15-12:15
Section 12	Friday, Dec. 12, 1997	12:30-2:30

# APPENDIX D

## EXAMPLE OF SEMESTER GRADE GUIDE PRINTOUT FOR STUDENT IN 10 STUDENT MEMBER SUBGROUP OF EXPERIMENTAL GROUP

LIST OF GRADES FOR CLASS 0694

January 12, 1998 5:07 pm

```

- J -----
textbook quiz 1 82      TextbookQ#2  91      GRAND TOTAL = 4230.00  GRAND AVERAGE = 76.20 %
TEXTBOOK QUIZ 4  92      TextbookQ6  92      TOTAL = 607.00  86.71 %
  Chpt Final  92
hw/cw/gw
HW/CW/GW 1 115      HW/CW/GW 2  70      TOTAL = 1733.00  93.42 %
hw/cw/gw 4 135      hw/cw/gw 11 140      hw/cw/gw 3 128
hw/cw/gw 13 145      hw/cw/gw 14  55      hw/cw/gw 12 145
HW/CW/GW 6 127      hw/cw/gw 7 148      Hw/cw/gw 5 138
HW/CW/GW 9 130      hw/cw/gw 10 115      hw/cw/gw 8 142
vocq/c/dj/rs/je      TOTAL = 1858.00  78.93 %
voc q/cards 1 118      Voc Q/Cards 2  96      LitLet#1  54
voc q/cards 3 121      voc q/cards 4 110      LitLet#2  53
  LitLet#3  70      VocFinal  82      Voc Q/cards 5 113
vocq/cards 6 113      vocq/cards 7 125      voc q/cards 8 117
vocq/cards 9 126      vocq/cards 10 122      voc q/cards 11 116
vocq/cards 12 134      Voc Final  82      Lit Let #3  70
  DJE 1  9      DJE 2  9      DJE 3  9
  DJE 4  0      DJE 5  0      DJE 6  9
book reports      TOTAL = 32.00  45.71 %
  bk1  7      bk2 10      bk3  5
  BR4  5      BR5  5      BK 6  0
  BK 7  0
NOTES
LL#2 Bonus = 27
Extra Credit "Merchant of Venice" =200  Video Pres = +150
TTL. PP. READ = 1072
Pretest 9.7  Posttest 13.3
Novels Read: Malice; Kiss the Girls; Vanished
-----

```

## APPENDIX E

### EXAMPLE OF A VOCABULARY QUIZ GIVEN TO EXPERIMENTAL GROUP (1 OF 6)

DVRE090 Voc. Quiz #5  
Fall, 1997

8. Which word could be used to describe "a small child," "a widow whose home has burned down," "a defendant in a trial whose alibi has been nullified," and "a 62 year-old employee in a company that is downsizing"?

- A. Prestige
- b. Impoverished
- c. Nullified
- d. Salaried
- e. Vulnerable

9. Salaried : wage earning :: \_\_\_\_\_ : reading the text after the final

- a. Current
- b. Ingrained
- c. Irrelevant
- d. Abounds
- e. Depressant

10. Domestic: those things which happen in another country :: \_\_\_\_\_ :  
continuing the same policies forever

- a. Revolution
- b. Doctrine
- c. Statute
- d. Orthodoxy
- e. Prejudice

11. Which of the following phrases would best describe the living conditions of a heretofore undiscovered tribe living on a small island in the Pacific Ocean with no contact with the outside world?

- A. Contemporary doctrines
- b. Impoverished urbanites
- c. Vast capitalists
- d. Vulnerable primitives
- e. Contemporary primitives

12. Niche : perfect job :: \_\_\_\_\_ : an overturned law

- a. Nullified
- b. Prescribed
- c. Initial
- d. Prevails
- e. Superficial

13. Vast: Grand Canyon :: \_\_\_\_\_ : spending time reading for fun

- a. Misallocation
- b. Leisure
- c. Prescribed
- d. Necessities
- e. Abounds

14. Vigorous : a healthy adult :: \_\_\_\_\_ : a person who has been elected to high office

- a. Revolution
- b. Contemporary
- c. Impoverished
- d. Prestige
- e. Doctrine

15. Vantage point : a hill overlooking a town :: \_\_\_\_\_ : funds from the city treasury being used to finance the mayor's vacation

- a. Redistribution
- b. Abounds
- c. Economics
- d. Salaried
- e. Misallocation

## APPENDIX F

### EXAMPLE OF A CHAPTER TEXTBOOK QUIZ GIVEN TO EXPERIMENTAL GROUP (1 OF 12)

Chapter #3 Test  
DVRE090 Fall 1997

22. In IC, which of the following statements is the most accurate regarding redistribution of wealth?
- a. Many developing countries make repeated attempts to redistribute wealth.
  - b. The bulk of the taxation never falls on the consumer
  - c. Government policy is aimed at protecting the demands of the poor
  - d. When the government imposes an income tax on large landholders, they face a massive resistance.
  - e. Conservative revolutions and massive resistance to taxes by large landholders have occurred in developing countries since the Persian Gulf Wars.
23. In Section I of this history chapter, which is NOT a major concept?
- a. Labor mobility
  - b. Occupational mobility
  - c. Economic Feminism
  - d. Redistribution of wealth
  - e. Nonindustrial nations views on reincarnation

.....

24. Which of the following concepts has NOTHING to do with Benazir Bhutto?
- a. A female Muslim Prime Minister
  - b. An assassinated father
  - c. An adoring crowd present for a 6 hour caravan
  - d. Fighting a fundamentalist Islamic male dominated culture
  - e. A Sister-in-law named Murtaza who was shot and killed in Pakistan
25. Which of the following statements would be a fair assessment of the ideology of Benazir Bhutto's "stand-for-the-common-men"?
- a. Egalitarianism for all Pakistani people
  - b. Discriminatory practices involving followers of Zia Kahn
  - c. Prejudicial treatment of all Afghani refugees
  - d. Ostracizing followers of Ali Bhutto
  - e. Alienating any New Delhi capitalists or those in the Kashmir provinces

.....

Matching by Synonyms:

- |                     |   |
|---------------------|---|
| 26. TFVs            | a. Knowing that tactile learners need to hold a small object in one hand while taking a test                      |
| 27. Terms in Triads | b. The fourth process in this strategy involves reciting  |
| 28. VATK modalities | c. One type involves agent; another involves category   |
| 29. SQ3R            | d. Have a study group of four divide chapter and make computer printouts involving difficult true/false questions |
| 30. IWET            | e. Definitions are best chunked by three words  |

## APPENDIX G

### EXAMPLE OF ONE COLLABORATIVE/COOPERATIVE GROUP ACTIVITY GIVEN TO EXPERIMENTAL GROUP

#### USING RDP WITH SECTION 1A/1B/1C

Your group will work together today and decide how to chunk 3+ (helped my understanding) and 3- (hindered my understanding) on the paragraphs you are assigned. You will write these on your newsprint, prepare a large mnemonigraph, and place your points on the class overhead!!!! Select one member of your group to present!!!

Table 1 - paragraph 1

What has stayed the same in the way people work in the Third World?

Table 2 - paragraph 2

Trace the job mobility of a worker in the industrialized nations as exemplified by the baker.

Table 3 - paragraph 3

What is the difference in educational mobility between those in the Third World and industrialized nations and how does this difference affect women?

Table 4 - paragraph 4

For a nation to redistribute wealth, what must they do?

Table 5 - paragraph 5

What are the prime means of redistribution? What are the differences in progressive income taxes and corporate taxes?

Table 6 - paragraph 6

How does the bulk of taxation usually fall on the consumer rather than the government?



APPENDIX H

LETTER OF PERMISSION FOR NELSON DENNY  
POSTTEST RESULTS FOR STUDENTS ENROLLED  
IN DVRE090 FOR FALL 1997 FROM  
DEPARTMENT HEAD DR. SARAH SPENCE



Southeastern  
Louisiana  
University

Department of  
Developmental Education

SLU 529  
Hammond, LA 70402

Line 651-2183  
504-549-2874

October 8, 1997

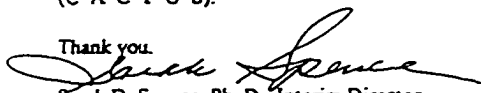
Dr. Rainy Mendoza-Stevens  
Director of Testing  
Southeastern Louisiana University  
Hammond, LA 70402

Dear Ms. Mendoza-Stevens:

This letter is a request for the score results of the Nelson Denny Form H Exit Test for this December 1997 in all of the sections in DVRE 090.

I am requesting these for Ms. Phyllis Simpson, who will use the data analysis in her dissertation entitled "Promoting Self-Efficacy in Postsecondary At-Risk Readers: A View of the Effects of Using an Instructional Model Based on Cooperative, Active, Critical Thinking Unified Strategies (C\*A\*C\*T\*U\*S)."

Thank you.

  
Sarah D. Spence, Ph. D., Interim Director  
Department of Developmental Education

# APPENDIX I DESCRIPTIVE STATISTICS FOR EXPERIMENTAL (123) AND CONTROL (109) GROUPS ON NELSON DENNY PRETEST FORM G

## Two-Sample Test Report

### Descriptive Statistics Section

Variable	Count	Mean	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
EXP	123	8.890244	1.575031	0.1420158	8.60911	9.171378
CON	109	9.199082	1.300961	0.1246094	8.952085	9.44608

Note: T-alpha (EXP) = 1.9796, T-alpha (CON) = 1.9822

### Confidence-Limits of Difference Section

Variance Assumption	DF	Mean Difference	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
Equal	230	-0.3088387	1.452791	0.191109	-0.6834055	6.572818E-02
Unequal	228.90	-0.3088387	2.042847	0.1889338	-0.6791422	6.146488E-02

Note: T-alpha (Equal) = 1.9600, T-alpha (Unequal) = 1.9600

### Equal-Variance T-Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
(EXP)-(CON)<>0	-1.6160	0.106087	Accept Ho	0.363094	0.165682
(EXP)-(CON)<0	-1.6160	0.053044	Accept Ho	0.489250	0.240823
(EXP)-(CON)>0	-1.6160	0.946956	Accept Ho	0.000578	0.000045

### Aspin-Welch Unequal-Variance Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
(EXP)-(CON)<>0	-1.6346	0.102125	Accept Ho	0.370043	0.170305
(EXP)-(CON)<0	-1.6346	0.051062	Accept Ho	0.496653	0.246631
(EXP)-(CON)>0	-1.6346	0.948938	Accept Ho	0.000541	0.000042

### Tests of Assumptions Section

Assumption	Value	Probability	Decision(5%)
Skewness Normality (EXP)	-3.6218	0.000293	Reject normality
Kurtosis Normality (EXP)	0.7711	0.440677	Cannot reject normality
Omnibus Normality (EXP)	13.7120	0.001053	Reject normality
Skewness Normality (CON)	-2.9121	0.003590	Reject normality
Kurtosis Normality (CON)	1.2284	0.219298	Cannot reject normality
Omnibus Normality (CON)	9.9891	0.006775	Reject normality
Variance-Ratio Equal-Variance Test	1.4657	0.041791	Reject equal variances
Modified-Levene Equal-Variance Test	4.5913	0.033185	Reject equal variances

# APPENDIX J

## DESCRIPTIVE STATISTICS FOR EXPERIMENTAL (123) AND CONTROL (109) GROUPS ON NELSON DENNY POSTTEST FORM H

### Two-Sample Test Report

Page 1  
Database  
Time/Date 15 09 04 12-14-1997

#### Descriptive Statistics Section

Variable	Count	Mean	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
EXP	123	11 28699	1 657767	0 1494758	10 99109	11 58289
CON	109	10 40367	1 997912	0 1913653	10 02435	10 78299

Note T-alpha (EXP) = 1 9796. T-alpha (CON) = 1 9822

#### Confidence-Limits of Difference Section

Variance Assumption	DF	Mean Difference	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
Equal	230	0 8833221	1 825398	0 2401241	0 4126876	1 353957
Unequal	210 59	0 8833221	2 596121	0 2428244	0 4073951	1 359249

Note T-alpha (Equal) = 1 9600. T-alpha (Unequal) = 1 9600

#### Equal-Variance T-Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
(EXP)-(CON)<>0	3 6786	0 000235	Reject Ho	0 955738	0 859081
(EXP)-(CON)<0	3 6786	0 999883	Accept Ho	0 000000	0 000000
(EXP)-(CON)>0	3 6786	0 000117	Reject Ho	0 978800	0 910992

#### Aspin-Welch Unequal-Variance Test Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
(EXP)-(CON)<>0	3 6377	0 000275	Reject Ho	0 951653	0 849236
(EXP)-(CON)<0	3 6377	0 999862	Accept Ho	0 000000	0 000000
(EXP)-(CON)>0	3 6377	0 000138	Reject Ho	0 976617	0 904181

#### Tests of Assumptions Section

Assumption	Value	Probability	Decision(5%)
Skewness Normality (EXP)	-1 4699	0 141587	Cannot reject normality
Kurtosis Normality (EXP)	0 0839	0 933122	Cannot reject normality
Omnibus Normality (EXP)	2 1677	0 338297	Cannot reject normality
Skewness Normality (CON)	-1 5248	0 127307	Cannot reject normality
Kurtosis Normality (CON)	1 4448	0 148521	Cannot reject normality
Omnibus Normality (CON)	4 4124	0 110118	Cannot reject normality
Variance-Ratio Equal-Variance Test	1 4525	0 046863	Reject equal variances
Modified-Levene Equal-Variance Test	1 6356	0 202224	Cannot reject equal variances

# APPENDIX K

## DESCRIPTIVE STATISTICS FOR 10 STUDENT MEMBER SUBGROUP OF EXPERIMENTAL GROUP ON NELSON DENNY PRETEST FORM G AND NELSON DENNY POSTTEST FORM H

### Paired T-Test Report

Page 1  
Database  
Time/Date 15.39.58 12-14-1997  
Variable X1 = PRE, X2 = POST

#### Descriptive Statistics Section

Variable	Count	Mean	Standard Deviation	Standard Error	95% LCL of Mean	95% UCL of Mean
PRE	10	9.74	0.9406853	0.2974708	9.067074	10.41293
POST	10	12.04	0.9777525	0.3091925	11.34056	12.73944
Difference	10	-2.3	1.136271	0.3593203	-3.112839	-1.487161

T for Confidence Limits = 2.2622

#### Tests of Assumptions about Differences Section

Assumption	Value	Probability	Decision(5%)
Skewness Normality	0.9557	0.339199	Cannot reject normality
Kurtosis Normality	-0.5400	0.589189	Cannot reject normality
Omnibus Normality	1.2051	0.547423	Cannot reject normality
Correlation Coefficient	0.298871		

#### T-Test For Difference Between Means Section

Alternative Hypothesis	T-Value	Prob Level	Decision (5%)	Power (Alpha=.05)	Power (Alpha=.01)
PRE-POST<>0	-6.4010	0.000125	Reject Ho	0.999878	0.994418
PRE-POST<0	-6.4010	0.000063	Reject Ho	0.999987	0.998671
PRE-POST>0	-6.4010	0.999937	Accept Ho	0.000000	0.000000

#### Nonparametric Tests Section

##### Quantile (Sign) Test

Hypothesized Value	Quantile	Number Lower	Number Higher	Prob Lower	Prob Higher	Prob Both
0	0.5	10	0	1.000000	1.000000	1.000000

##### Wilcoxon Signed-Rank Test for Difference in Medians

W	Mean of W	Std Dev of W	Number of Zeros	Number Sets of Ties	Multiplicity Factor
0	27.5	9.797959	0	2	12

Alternative Hypothesis	Exact Probability		Approximation Without Continuity Correction			Approximation With Continuity Correction		
	Prob Level	Decision (5%)	Z-Value	Prob Level	Decision (5%)	Z-Value	Prob Level	Decision (5%)
X1-X2<>0			2.8067	0.005005	Reject Ho	2.7557	0.005857	Reject Ho
X1-X2<0			-2.8067	0.002503	Reject Ho	-2.7557	0.002929	Reject Ho
X1-X2>0			-2.8067	0.997497	Accept Ho	-2.8577	0.997867	Accept Ho

## APPENDIX L

### COPY OF SCHWARZER'S GENERALIZED SELF-EFFICACY PSYCHOMETRIC SCALE

Perceived Self-Efficacy

<http://www.yorku.ca/faculty/academic/schwarzer/english.html>

#### English Adaptation of the General Self-Efficacy Scale

• By Ralf Schwarzer and Matthias Jerusalem, Translated by Mary Wegner, Berlin, Germany

1. Not at all true
  2. Barely true
  3. Moderately true
  4. Exactly true
- 
- 1) I can always manage to solve difficult problems if I try hard enough.
  - 2) If someone opposes me, I can find means and ways to get what I want
  - 3) It is easy for me to stick to my aims and accomplish my goals.
  - 4) I am confident that I could deal efficiently with unexpected events.
  - 5) Thanks to my resourcefulness, I know how to handle unforeseen situations
  - 6) I can solve most problems if I invest the necessary effort.
  - 7) I can remain calm when facing difficulties because I can rely on my coping abilities
  - 8) When I am confronted with a problem, I can usually find several solutions
  - 9) If I am in trouble, I can usually think of something to do
  - 10) No matter what comes my way, I'm usually able to handle it.
-

APPENDIX M

EXAMPLE OF ONE EXCERPT FROM EXPERIMENTAL  
SUBGROUP STRATEGY JOURNAL

4/150 Reading Strategy #6  
True-False verifications

1. Form your groups of 4
2. Divide chapter by subheadings
3. Have all 4 people questions on  
computer printout (w/ answer  
sent. checkmarked)
4. Swap - stop w/ page #s
5. Study finished T.F.V's together

No. 1 <sup>iteration</sup>  
According to the text, increased  
feelings of alienation among  
the rich Western nations can  
be illustrated by the answer  
to the question "Where are you  
going to be buried?"

of their families. I think that if they could keep track of where their families were, then they could know where they'd be buried. This is true! Fairly clear

A. How would increased ~~ed~~ contribute to this feeling of alienation? They don't have the knowledge of where their families are so worry about where they're at.

B. Contrast richer/poorer nations on this. Name some!

The richer nations know where their families are even if they are in other states or <sup>countries</sup>. Poorer nations would rather have food than know where their families are or were. The ~~o~~ have no morals or values b/c <sup>because</sup> they never have had the education like the richer nations.

This is true  
Good Points  
Name some of these poorer nations!

# APPENDIX N

## EXAMPLE OF ONE EXCERPT FROM EXPERIMENTAL SUBGROUP DIALOGUE JOURNAL

	Journal Entry #9
	<u>Personal Reflections</u>
Just relax and don't get stressed out. Just take every day step by step.	My classes are going really well. I am not stressed out like I was at the beginning of school. I make sure I do all my work. I get people to explain stuff to me if I don't understand. I am also doing a lot better on writing my essays in class. I don't have as many errors like I use to.
You need to know people in college in order for you can get help at something you don't understand.	<u>Recreational Reading Reflections</u>
Your book sounds really interesting. Keep reading it.	I think the author wrote this book because she wanted everyone to know what she experienced. It was really a good book. I enjoyed it so much. I think it was very great how all of that knowledge I could



APPENDIX O

QUESTIONS USED FOR PRESEMESTER INTERVIEW

**PRESEMESTER INTERVIEW QUESTIONS:**

1. Please state your age, gender, race, and marital status
2. Tell me something really unusual about you. It can be a hobby, something you have done, something about your family, a pet or so forth
3. What was the title of the last book you read? If you can't remember the title, tell me what the book was about. Why did you read the book? Did you finish it completely?
4. What is your favorite subject in school? Why?
5. During high school did you consider yourself a leader? Why or why not?
6. Do you consider your learning style to be important? Do you think you are left-brained or right-brained? Do you think you are visual or auditory or tactile or kinesthetic?
7. Tell me 3 of your current movies, current or otherwise.
8. What was the last movie you saw? Did you like it? Why or why not?
9. What is your major? Why did you choose it? What major are you considering? Do you think you'll finish and get a degree?
10. What are the occupations of your parents? Would you be interested in having a job like theirs? Why or why not?
11. Do you work now? What do you do? Do you like this job? Why or why not?
12. How do you feel about working with others in groups in college? Would you always rather do your work all by yourself?
13. Why do you think you placed in developmental reading and how do you feel about that?
14. What do you expect to learn from this course about reading and/or about yourself?
15. What do you expect of me, as your instructor?

## APPENDIX P

### QUESTIONS USED FOR POSTSEMESTER INTERVIEW

#### POSTSEMESTER INTERVIEW QUESTIONS

1. (A) GIVE THE TITLE OF AT LEAST ONE NOVEL THAT YOU READ THIS SEMESTER AND TELL ME WHETHER YOU LIKED IT OR NOT. (B) TELL ME IF YOU STILL DISLIKE READING AS MUCH AS YOU DID IN AUGUST, 1997.
2. TELL ME THE NUMBER OF THE BEST READING STRATEGY THIS SEMESTER AND WHY IT'S GOOD.
3. TELL ME THE NUMBER OF THE WORST READING STRATEGY THIS SEMESTER AND WHY YOU THINK IT'S BAD.
4. AFTER WORKING WITH YOUR "FAMILY" FOR FOURTEEN WEEKS NOW, DO YOU FEEL MORE LIKE A LEADER?
5. DO YOU FEEL MORE CONFIDENT ABOUT EXPRESSING YOUR OPINION AFTER THIS SEMESTER? IF SO, WHY?
6. DO YOU FEEL THAT YOUR LEARNING STYLE WILL ENHANCE YOUR LEARNING NOW THAT YOU KNOW WHAT YOUR PARTICULAR LEARNING STYLE IS? (L.BRAIN/R.BRAIN/VISUAL/AUDITORY/ETC.)
7. (A) HAVE YOU DETERMINED WHAT YOUR MAJOR IS GOING TO BE NOW?  
(B) DO YOU NOW FEEL MORE MOTIVATED TO LEARN AFTER A SEMESTER IN OUR CLASS? WHY OR WHY NOT?
8. DO YOU FEEL MORE CONFIDENT ABOUT GRADUATING FROM SLU (OR ANOTHER COLLEGE) AFTER THIS SEMESTER OF WORKING WITH OTHERS IN OUR CLASS? WHY OR WHY NOT?
9. (A) DID YOU LEARN MORE ABOUT STUDY SKILLS FROM THE HISTORY CHAPTER OR THE MUSIC CHAPTER?  
(B) DO YOU THINK YOU WILL USE ANY OF THESE NEW SKILLS NEXT SPRING WHEN STUDYING?
10. DO YOU STILL FEAR INTERNET OR E-MAIL PROJECTS AFTER THIS SEMESTER? WHY OR WHY NOT?
11. DO YOU THINK THAT YOU WILL BE A STRONGER STUDENT IN CRITICAL THINKING IN THE SPRING BECAUSE OF THIS CLASS? WHY OR WHY NOT?
12. DO YOU FEEL THAT YOUR EXPECTATIONS OF THIS CLASS (AND OF ME AS THE INSTRUCTOR) WERE MET THIS SEMESTER? WHY OR WHY NOT?
13. DO YOU THINK THAT WORKING WITH YOUR "FAMILY" ON VOCABULARY CHECKS AND CLASS PROJECTS HELPED YOU DEVELOP MORE CONFIDENCE IN YOURSELF AS A LEARNER? IF SO, PLEASE EXPLAIN WHY.

# APPENDIX Q

EXAMPLE OF OBSERVATIONAL CHART USED FOR  
12 READING STRATEGIES IN C\*A\*C\*T\*U\*S

#2	Name of Strategy	Date of Observation	Most Positive Outcome Observed	Least Positive Outcome Observed	Notes
	Power				
	Recognition				
	Accomplishment				
	Structured				
	Competitive				
	Interactive				
	Aesthetic				
	Scientific				
	Practical				
	Assertive				
	Sociable				
	Nonconforming				
	Lifelong				
	Submissive				
	Withdrawn				
	Adapting				
	Caring				
	Enterprising				
	Creative				
	Disciplined				
	Independent				
	Tough-Minded				
	Adjusted				
	Extroverted				
A-2					
A-3					
J-1					
J-5					
K					
N1-2					
N					
S					
T					
W					
Totals					

(Adapted from Leach, Evans, & Whelan, 1972)

## APPENDIX R

### EXAMPLE OF EXCERPT FROM RESEARCHER-KEPT OBSERVATIONAL JOURNAL USED FOR 12 READING STRATEGIES IN C\*A\*C\*T\*U\*S

#### RESEARCHER-KEPT OBSERVATIONAL JOURNAL FOR STRATEGY #7 (RDP) - October 20, 1997(SLU)

Ashley (+) Picked up strategy immediately. Had no trouble with 3 positive concepts but had trouble finding 3 negative concepts that she had little background knowledge about

Alfred (+) Thought that the strategy took too long, but then he realized the History 101 paragraphs they had to analyze had very difficult subject matter on which he had little or no background knowledge about. He became more social and interactive at that point. Dionne and Kaneisha both asked Alfred questions today, and he felt much better in giving an answer (even though it wasn't quite right). I did not correct him in front of the girls

John Paul (+) Very communicative and assertive this morning. He was having trouble with Daniel not giving their group any answers, and he specifically verbally cautioned Daniel to quit hitchhiking. It worked, too. Daniel became more interactive as a result of John Paul's power-filled remarks.

Janna (+) Didn't grasp difference in the + and the - concepts at first. She thought I meant positive/negative as in vocabulary analogies - not (+) for background knowledge and (-) for little or no background knowledge whatsoever. It was evident that she was being both sociable and assertive when she and James and Joni all disagreed on how much they knew about ingrained customs in the underdeveloped countries that we were looking at

Kristi (+) Much more enthusiastic than yesterday. Not shy or timid at all today. Spoke out when no one at her table had any idea about what was meant by corporate taxes

Marlice (+) Good leader this morning. She really helped Mindy and Brandon on concept of progressive taxes question - very sociable and interactive throughout the lesson

Marcus (+) Highly enthusiastic this afternoon. He seemed to take over when the group made a large mnemonigraph poster for their concept involving Benazair Bhutto and Pakistan

Nicole (+) She was good at getting their group's three positive background knowledge ideas on the paragraph they had to work on involving death and dying. Once again, we talked about euthanasia, and she is highly opinionated on this subject. Amy and Tye and Coy were in her group today so there was a lot of arguing going on.

Tim (+) He was very outspoken this morning when he and Rob disagreed on how Bhutto would/would not come back to power in Pakistan. Tim is quite a leader when anything involving current world events is involved in the activity. He doesn't appear to be shy at all and it is surprising how such an athlete loves the news.

Wayne(+ ) Very argumentative with Doug today on patriarchal led countries and reincarnation

## VITA

Phyllis L. Simpson is a developmental reading/critical thinking instructor at Southeastern Louisiana University in Hammond, Louisiana. She received a bachelor of science degree from Louisiana State University in 1970, and she completed her masters of education degree at Southeastern Louisiana University in 1995. She will receive her doctor of philosophy degree from Louisiana State University at the 1998 Spring Commencement. Ms. Simpson has taught reading and English at all grade levels from second grade to postsecondary freshmen, and she has been a classroom teacher for approximately twenty-five years. Throughout her teaching career, Ms. Simpson has utilized reading strategies that focus on active learning, cooperative learning, and critical thinking.

Ms. Simpson has published articles on vocabulary and comprehension in professional publications, and she has written a strategy-filled, hands-on teacher's manual for a college level content area reading textbook. She has created and designed a software vocabulary program for implementation in various high school content area classes, and she has conducted in-service teacher workshops in connection therewith. She has represented Southeastern Louisiana University at both international and national reading/critical thinking conferences in California,

Colorado, Illinois, Texas, and Louisiana via presentations concerning specific reading strategies that she designed and/or adapted for at-risk readers at all reading levels. She is presently coauthoring a new reading strategy textbook for readers in grades four through twelve.

Ms. Simpson is presently an active member of the following professional organizations: LADE, NADE, CRLA, ALA, LaBODS, Orton Dyslexia Society, American Vocational Education Research, and Mid-South Educational Research Association. She also serves on various committees at the university level at SLU.

Ms. Simpson practices and professes a strong belief in the affective domain of learning, and her lifelong love of recreational reading is very evident in her desire to make all students find at least one author that they truly like to read before they exit her reading classroom.

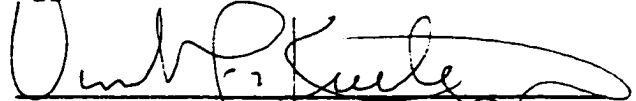
# DOCTORAL EXAMINATION AND DISSERTATION REPORT

**Candidate:** Phyllis L. Simpson

**Major Field:** Vocational Education

**Title of Dissertation:** PROMOTING SELF-EFFICACY IN POSTSECONDARY AT-RISK READERS: A VIEW OF THE EFFECTS OF USING AN INSTRUCTIONAL MODEL BASED ON COOPERATIVE, ACTIVE, CRITICAL THINKING UNIFIED STRATEGIES (C\*A\*C\*T\*U\*S)

**Approved:**

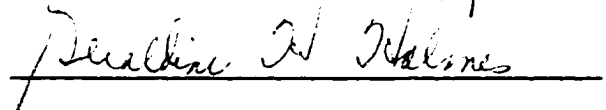
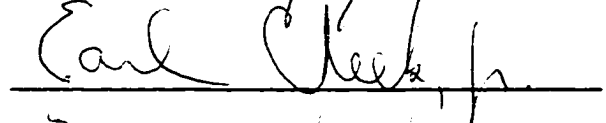
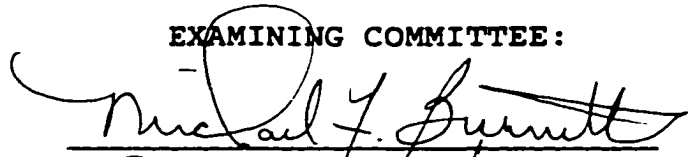


Major Professor and Chairman



Dean of the Graduate School

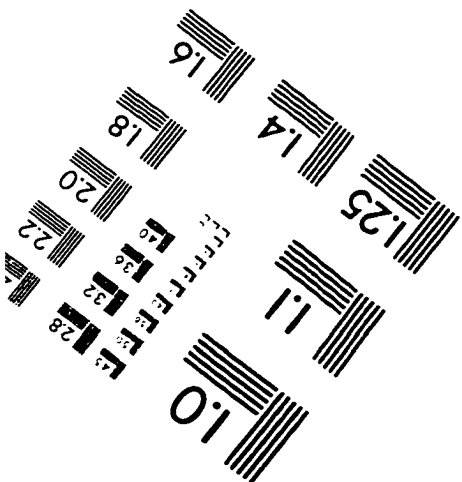
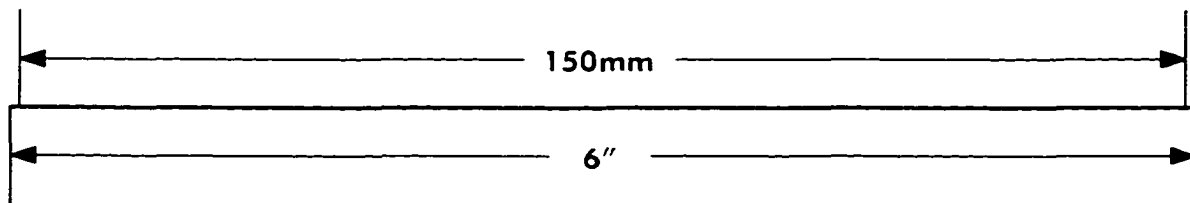
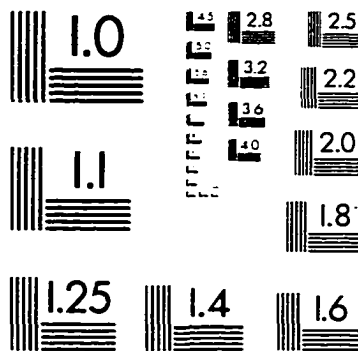
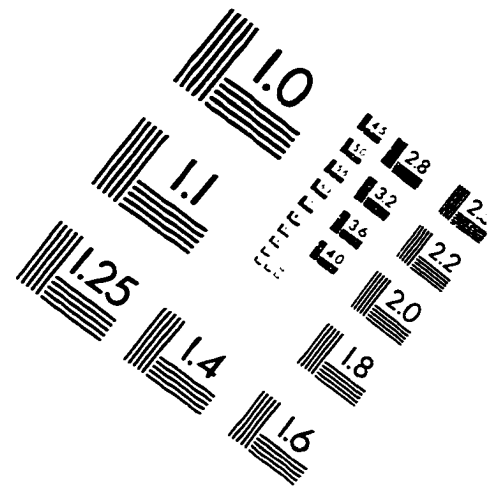
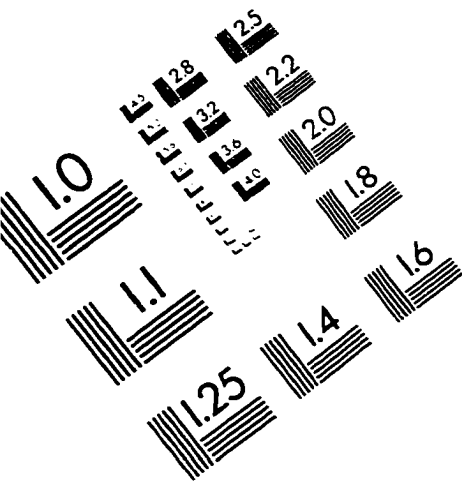
## EXAMINING COMMITTEE:



**Date of Examination:**

3/20/98

# IMAGE EVALUATION TEST TARGET (QA-3)



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